AFT 2026
Advanced Fermentation Technology

New frontiers in Industrial Biotechnology

Bridging Fundamental Research and Industrial Innovation

30 June – 1st July 2026 – University of Lille

Day 1 – Scientific Advances and Technological Innovations

08:00-09:00 Welcoming

09:00-09:30 Opening Session
Franck DUMEIGNIL, University of Lille, France

09:30-10:15 Plenary conference
Christoph HERWIG, Körber Pharma, Austria
The Potential of Digital Tools to Bridge Research Innovations to Viable Bioprocesses

10:15-10:45 Coffee break

10:45-12:30 Session 1 - Selecting and Engineering Robust Strains for efficient fermentation

***Chairs: François COUTTE**, University of Lille, France and **Philippe JACQUES**, University of Liège, Belgium*

Focus: *This session focuses on designing robust microbial strains adapted to real industrial constraints, including scale-up, downstream purification, and process integration. It highlights the use of techno-economic and model-guided frameworks combining metabolic, process, and cost modelling to guide early strain and process development. Key discussions will address how predictive and AI-enhanced models can support scalable, energy-efficient, and cost-competitive bioprocess design under market and regulatory constraints.*

10:45 **Claus LATTEMANN**, Lesaffre International, France
Title coming soon

11:10 **Lisbeth OLSSON**, Chalmers University of Technology, Sweden
Microbial robustness- a key to efficient bioprocesses

11:35 **Joana CAMPOS**, TetraPack, Sweden
The make or break of precision fermentation: the choice of the host organism

11:50 **Francesco ROPPO**, University of Lille, France
Advancing Lignocellulosic Biomass Conversion into Lipopeptides through genetic engineering of B. subtilis guided by model-based constraint programming

12:05 **Clément DINCE**, Sequens, France
Transitioning Toward Green Engineering: Precision Fermentation as a Sustainable Alternative to Chemical Peptide Synthesis — A Case Study of the PeptiCode™ Platform

12:20 Flash poster presentation Session 1

12:30-14:00 Lunch & Poster Session

14:00-15:50 Session 2 - Advanced Fermentation Systems

***Chairs: Nathalie GORRET**, TBI, France and **Petra HEIDINGER**, Acib GmbH, Austria*

Focus: *This session will highlight advances in fermentation system design that enable a robust transition from laboratory to industrial scale. It will address innovations in bioreactor technologies, automation, and process intensification, with a strong focus on scale-up methodologies and early techno-economic evaluation. Discussions will center on how integrated engineering and economic tools can improve productivity, reliability, and cost efficiency across diverse fermentation platforms.*

14:00 **Petra HEIDINGER**, Acib GmbH, Austria
From CO_2 to Protein: Advancing Pilot Scale Gas Fermentation with C. necator

14:25 **Nico CRUZ BOURNAZOU**, TU Berlin, Germany
Title coming soon

14:50 **Pedro FERRANDIZ**, Genodics, France
New tools to optimize bioprocesses

15:05 **Elodie CHOQUE**, University of Picardy Jules Verne, France
Optimization of semi-solid fermentation of agricultural by-products using Aspergillus tubingensis for a without waste use

15:20 **Stéphane GUILLOUET**, INSA-TBI, France
Bioreactor Engineering for Bacterial Production of Biomolecules from CO_2

15:35 **Nabila IMATOUKENE**, URD ABI, AgroParisTech, France
Enhanced de novo Ferulic Acid Production in Biphasic Yeast Fermentation

15:50 Flash poster presentation Session 2

16:00-16:30 Coffee break & Poster Session

16:30-18:50 Session 3 - Control Strategies, Machine Learning and Digital Twins for Bioprocess Design

***Chairs: Frank DELVIGNE**, University of Liège, Belgium and **Nico CRUZ BOURNAZOU**, TU Berlin, Germany*

Focus: *This session will focus on sensors, process analytics, and data-driven control strategies enabling real-time monitoring and optimization of fermentation processes. It will highlight the role of AI, hybrid models, and digital twins in improving process robustness, scale-up predictability, and decision-making across the bioprocess lifecycle. Key discussions will address model reliability, techno-economic trade-offs, and the validation of digital control frameworks under industrial constraints.*

16:30 **Moritz VON STOSCH**, HINA Bioventures, Switzerland
How digital tools can support scale-up: Using hybrid modeling and transfer learning for across scale predictions

16:55 **Alex FEDOREC**, University College of London, United Kingdom
Reinforcement learning for the control of microbial communities in bioreactors

17:20 **Caroline SOLON**, ATV, France
Smart fermentation at scale: How CDMOs accelerate bioprocess development through AI and Digital Twins

17:35 **Jean-Sébastien GUEZ**, Institut Pascal / UCA-CNRS, France
Deep Learning Unlocks Real-Time Morphology Based Characterization of Cell Populations in Bioreactors

17:50 **Gregory BATT**, INRIA, Institut Pasteur, France
Using combinatorial cloning approaches and automated cytometry to optimize bioproduction in yeast

18:05 **César RODRIGUEZ-FANO**, University Claude Bernard Lyon 1, France
Real-time monitoring of Escherichia coli cultures using multiple spectroscopic methods

18:20 Flash poster presentation Sessions 3, 4 & 5

18:45-21:30 Poster Session, Cocktail

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Day 2 – Translational Research and Industrial Collaboration

8:15-9:45 Session 4 - Autonomous Bioprocessing for Industrial Scalability

***Chairs: Marcin ŁUKASZEWICZ**, University of Wrocław, InventionBio, Poland* and ***Julien BOUTET**, Sequens, France*

Focus: *This session will focus on the transition toward autonomous and continuous bioprocessing through the integration of upstream fermentation and downstream purification. It will highlight process design, control, and integration strategies that enhance productivity, robustness, and resource efficiency. Discussions will emphasize the role of techno-economic evaluation in guiding decisions from pilot to full-scale industrial operation.*

8:15 **Anna-Lena HEINS**, University of Hambourg, Germany
How much do we need to monitor and control for development of scalable, high-yielding and robust bioprocesses?

8:40 **Marie Jane FALLOURD**, Fermentalg, France
Title coming soon

9:05 **Enver Felix LOAYZA MORA**, Institute of Nanotechnology and Biobased Materials TUB Freiberg, Germany
Droplet-based microfluidics and automation to overcome challenges in the screening of secondary metabolites during bioprocessing

9:20 **Eric HILLER**, University of Hohenheim, Germany
Model-based process design for surfactin production with Bacillus subtilis

9:35 **Yasmine JERAD**, iMEAN, France
Digital Twins in Modern Fermentation - Integration of high-predictive models in Autonomous Fermentation

9:45-10:15 Industrial sponsor presentation (5 minutes/sponsor)
***Chair: Rozenn RAVALLEC**, University of Lille, France*

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Bioeconomy For Change - B4C

10:15-10:45 Coffee break & Poster Session

10:45-12:30 Session 5 - Translational Bioprocessing: From laboratory scale to Industry

***Chairs: Anthony BRESIN**, AnBreiL, France* and ***Elodie WATTEZ**, Ingredia, France*

Focus: *This session will address how to translate laboratory-scale innovations into industrial bioprocesses by aligning scalability, regulatory compliance, and economic viability. It will highlight technology transfer models, pilot and demo-scale infrastructures, and sector-specific constraints across food, pharma, green chemistry, and bio-based materials. Key discussions will focus on overcoming technical and regulatory bottlenecks through stronger collaboration between academia, industry, and regulators.*

10:45 **Muriel BARDOR**, Alga Biologics, University of Rouen, France
From Fundamental research regarding the protein N-glycosylation pathways in microalgae to the production of microalgae-made biologics at industrial scale

11:00 **Ildar NISAMEDTINOV**, Lallemand, Estonia
From ideation to execution: essential steps in industrial bioprocess development

11:15 **Vincent USACHE**, Microphyt, France
Microphyt - From Lab to Market: Scaling Microalgae Production and Extracts for Industry

11:30 **Ghislain SANHAJI**, ARD, France
From Innovation to Production: Mastering the Art of Industrial Scale-up to Secure Your Path to Market

11:45 **Tambi KAR**, Galactic, Belgium
Industrial deployment of recycled-carbon fermentation: A translational framework for low-emission bioprocesses

12:00 **Olivier GALY**, TWB – INRAE, France
Adoption of miniaturized an automated approaches to assist R&D for bioprocess developments

12:15 **Audrey MAGNIN**, Bioeconomy For Change, France
Bioindustry 4.0 : Leveraging advanced digital solutions to empower the European bioindustry sector

12:30-13:15 Round table Discussion

***Chairs: Jean-Pierre LEAC**, SATT Nord, France* and ***Lionel GENETELLI**, University of Lille, France*

Theme: *This roundtable will explore how the convergence of systems biology, data science, artificial intelligence, equipment and bioprocess engineering can redefine the future of fermentation and bioproduction. In addition to scientific and technological challenges, the discussion will address the evolving economic landscape and funding environment for breakthrough biotechnology projects, particularly in fermentation-based innovations.*

Christoph HERWIG, Körber Pharma, Austria
Michael KREL, Sofinnova Partners, France
Pierre MONSAN, INSA Toulouse, France
Guillaume BOISSONNAT-WU, Pili, France
Christophe LUGUEL, Bioeconomy For Change - B4C, France
Etienne VERVAECKE, Pôle NSL / EURASANTE

13:15-13:30 **Closing session and Poster Prices**

13:30-14:30 ***Networking Lunch***

14:30-16:30 **Pôle Universitaire d'Innovation Lille (PUI) event & Lab visit**

Conclude the congress with a convivial moment to learn more about opportunities for collaboration with public research alongside the business development team of the Pôle Universitaire d'Innovation Lille (PUI Lille).

14:30-14:45 **Presentation of PUI Lille**
A brief introduction to PUI Lille, highlighting opportunities for companies to collaborate with academic research, along with selected examples of existing partnerships.

14:45-15:15 **Coffee break & networking**
Participants will have the opportunity to meet and exchange informally with PUI Lille business developers.

15:15-16:30 **Lab and platform tours (limited places)**
Optional visits to REALCAT or BioEcoAgro facilities

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