

### *New frontiers in Industrial Biotechnology*

**Bridging Fundamental Research and Industrial Innovation**

**30 June – 1<sup>st</sup> 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  
*From Strain Design to Manufacturing at Scale: Design principles and challenges bringing strains to commercial scale*
- 11:10 **Lisbeth OLSSON**, Chalmers University of Technology, Sweden  
*Microbial robustness- a key to efficient bioprocesses*
- 11:35 **Ravinder SHARMA**, Tetra Pak, 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 Knowledge-Driven B. subtilis Engineering*
- 12:05 **Clément DINCE**, Seqens, 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

**Pauline BRUNIAUX**, VF Bioscience

*Lactic acid fermentation enhances antioxidant potential of chicory by-products for functional food applications*

**Sabine BOSSELAAR**, Lesaffre International

*Screening of Yeast Based Nutrients to optimize growth of Lactic Acid Bacteria at 96-well MTP scale and validation at AmbR250 scale*

**Nicolas GAUTRON**, UR2106 - Biomolécules et Biotechnologies Végétales, Université de Tours

*Bioproduction and sustainable supply of the anticancer compound etoposide by yeast cell-factories*

**Romain EL ANDALOUSSI**, La Pâtisserie Numérique / URD ABI

*Medium optimisation for the production of food protein in Yarrowia lipolytica, improving economic feasibility at industrial scale*

**Durga-Guna-Sravani BAVISETTY**, Lallemand

*Enhancing probiotic bacteria growth via balanced RNA and DNA precursors in an innovative fermentation nutrient*

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<sub>2</sub> to Protein: Advancing Pilot Scale Gas Fermentation with C. necator*

14:25 **Nico CRUZ BOURNAZOU**, TU Berlin, Germany

*Experimental Design and Operation Strategies for Accelerated Bioprocess Development*

14:50 **Victor PRÉVOST**, 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<sub>2</sub>*

15:35 **Nabila IMATOUKENE**, URD ABI, AgroParisTech, France

*Enhanced de novo Ferulic Acid Production in Biphase Yeast Fermentation*

## 15:50 Flash poster presentation Session 2

**Martin BORDE**, Toulouse Biotechnology Institute (TBI) - INSA Toulouse

*Bioproduction and modulation of the composition of Single Cell Protein (SCP)*

**Diogo Jacinto MARQUES**, Institute for Biotechnology and Biosciences - Instituto Superior Técnico

*Lactobacilli consortium and Corynebacterium glutamicum sequential cultivation to produce single cell protein (SCP) from seaweed by-products*

**Miguel DIOGO**, IST-iBB

*Tailored Bioplastics for Biomedical Applications: Controlling 4HB Incorporation in PHA Copolymers*

**Alizée SLOODTS**, Université de Liège - Gembloux Agro-Bio Tech - Microbial technologies

*Controlling microbial population instability in continuous cultivation: impact of switching cost and phenotypic escape*

**Cecilia CAPELA**, Institut Pasteur

*A ReacSight platform for characterizing genetic instability in synthetic biology*

16:00-16:30

Coffee break & Poster Session

### 16:30-18:30 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 Morphological Characterization of Cell Populations in Bioreactors Equipped with In Situ Microscopy*

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**

**Session 3**

**Jonas BERMEITINGER**, LABMaiTE GmbH

*AI-Driven Smart Experiment Design for Optimized Bioprocess Development*

**Antoine BORG**, Euroapi

*Local vs. Global: Achieving Better Raman Glucose Detection with Simplified Model*

**Carolina VARES**, Instituto Superior Técnico

*Forecasting of Mannosylerythritol Lipids Production using Artificial Intelligence Methods*

**18:30-20:00 Poster Session, Cocktail**

### 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 **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*
- 8:55 **Eric HILLER**, *University of Hohenheim, Germany*  
*Model-based process design for surfactin production with Bacillus subtilis*
- 9:10 **Yasmine JERAD**, *iMEAN, France*  
*Digital Twins in Modern Fermentation - Integration of high-predictive models in Autonomous Fermentation*

9:25-10:05 **Industrial sponsor presentation (5 minutes/sponsor)**

**Chair:** *Rozenn RAVALLEC, University of Lille, France*

**Clément DINCE**, *Sequens, France*  
**Quentin HAGUET**, *Platform REALCAT (Centrale Lille)*  
**Oussama ACHOUR and Marc DELAUNAY**, *BioAqtiv*  
**Nathalie PONS**, *Tetra Pak*  
**Lutz C. BERWANGER**, *SBI*  
**Fabrice TITUS**, *I&L Biosystems*

10:05-10:30

*Coffee break & Poster Session*

10:30-12:15

#### 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.*

- 10:30 **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*
- 10:45 **Ildar NISAMEDTINOV**, Lallemand, Estonia  
*From ideation to execution: essential steps in industrial bioprocess development*
- 11:00 **Rémi PRADELLES**, Microphyt, France  
*Microphyt - From Lab to Market: Scaling Microalgae Production and Extracts for Industry*
- 11:15 **Ghislain SANHAJI**, ARD, France  
*From Innovation to Production: Mastering the Art of Industrial Scale-up to Secure Your Path to Market*
- 11:30 **Tambi KAR**, Galactic, Belgium  
*Industrial deployment of recycled-carbon fermentation: A translational framework for low-emission bioprocesses*
- 11:45 **Olivier GALY**, TWB – INRAE, France  
*Adoption of miniaturized and automated approaches to assist R&D for bioprocess developments*
- 12:00 **Lilian FAVACHO RODRIGUES**, Bioeconomy For Change, France  
*Bioindustry 4.0 : Leveraging advanced digital solutions to empower the European bioindustry sector*

## 12:15-13:00 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

13:00-13:30 **Closing session and Poster Prices**

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

# AFT 2026

Advanced Fermentation Technology



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 visit to [BioEcoAgro](#) facilities

## SPONSORS

