

CONFERENCE PROGRAMME

MONDAY, 14th OCTOBER

16:00 - 18:00	Arrival and Registration
18:00 - 18:30	Welcome by the chairs Claire Dumon, Jean-Guy Berrin and Guillermina Hernandez-Raquet Introductory talk by Pierre Benoit Joly, Head of INRAE Occitanie-Toulouse Center
18:30 - 20:00	Welcome cocktail

TUESDAY, 15th OCTOBER

Linking biomass molecular structure to bioproducts and biobased materials *Maija Tenkanen (University of Helsinki, Finland) and Michael Crowley (NREL, USA)*

9:00 - 9:40	Keynote: Ingo Burgert ETH, Zurich, Switzerland Biobased Materials – Potentials and Challenges
9:40 - 10:00	Fabienne Guillon, INRAE, BIA, Nantes, France In situ imaging of LPMO action on plant tissues by mass spectrometry
10:00 - 10:15	Flash Presentations Morten Rese , Norwegian University of Life Science: Detailed characterization of hardwood and softwood lignin conversion by a brown-rot basidiomycete Koar Chorožian , National Technical University of Athens: Enhancing Bio-based Material Production: Characterization of a New LPMO from <i>Fusarium oxysporum</i> for Cellulose Extraction and Functionalization Christian Donohoe , University of Copenhagen: The oxidative effects of C1 or C4 - acting lytic polysaccharide monoxygenases on the production of nanofibrillated-cellulose from sugar-beet pulp
10:15 - 10:50	Coffee
10:50 - 11:10	Owen Mototsune , University of Toronto, Canada Applying Oxidative Enzymes to Make Fully Bio-based Chitosan Gels
11:10 - 11:30	Gabriel Paës , INRAE-FARE, Reims, France Dynamical assessment of fluorescent probes mobility in poplar cell walls reveals nanopores govern saccharification
11:30 - 11:50	Estelle Bonnin , INRAE-BIA, Nantes, France Tomato stem-reinforced composites: Biobased and biodegradable materials for a virtuous circular approach in the horticulture sector
11:50 - 12:10	Flash Presentations Scott Mazurkewich , Chalmers University of Technology: Understanding enzyme-substrate interactions and biological roles in Carbohydrate Esterase Family 15 Edwige Audibert , INRAE - Reims University: Impact of structural and morphological features of industrially steam exploded woody biomass on bioethanol production Pedro A. Martins , Technical University of Denmark: The effects of glucuronoyl esterase activity on untreated lignocellulosic biomass Jonas Thomsen , University of Copenhagen: Applying biotech approach to unravel recalcitrance of peat
12:10 - 13:20	Lunch
13:20 - 14:30	Poster session



Advances and cutting-edge technologies for enzyme discovery and engineering

Kiyohiko Igarashi (University of Tokyo, Japan) and Clemens Peterbauer (BOKU University, Austria)

	Keynote: Jane W. Agger DTU, Denmark
14:30 - 15:10	Polyphenol oxidases as new biocatalysts for oxy-functionalization of lignin
15:10 - 15:30	Edita Jurak , University of Groningen, The Netherlands Assigning function of enzymes within genetic clusters
15:30 - 15:50	Meera Christopher , Chalmers University, Gothenburg, Sweden Bioprospecting filamentous fungi for robust cell wall degrading enzymes
15:50 - 16:05	Flash presentations
	Line Korte Martinsene , Technical University of Denmark: Examining the interactions of plant biomass and microbial expansins -The hand grenade in lignocellulosic biorefinery?
	Anne JVC Brilhante LNBR-University of Campinas: Structural insights into a novel aldehyde-dehydrogenase active on cinnamaldehydes related to monolignols
	Simone Tarp Sunding , Technical University of Denmark: Unspecific peroxygenases and their oxidative activity towards lignin
16:05 - 16:40	Coffee
16:40 - 17:00	Ligia O. Martins , Universidade Nova de Lisboa, Portugal Enhancing the Value of Lignin-derived Chemicals through Tailored Bacterial Laccases
17:00 - 17:20	Iker Pardo Larrabeiti , INSA, TBI, Toulouse, France Investigating the spatial configuration of glycoside hydrolase multienzyme complexes on Plant Cell Wall breakdown
17:20 - 17:40	Maija Tenkanen , University of Helsinki, Finland Novel monolignol acting CAZy AA3_2 family oxidoreductases from plants
17:40 - 18:00	Wade Abbott , Agriculture and Agri-Food Canada Using combinatorial glycomic and molecular tools to inform microbial function in the ruminant gut microbiome
18:00 - 19:30	Poster session & beers

WEDNESDAY, 16th OCTOBER

Modeling and Artificial Intelligence contribution to lignocellulose valorization

Ligia O. Martins (Universidade Nova de Lisboa, Portugal) and Evangelos Topakas (National Technical University of Athens, Greece)

9:00 - 9:40	Keynote: Michael F. Crowley, NREL, USA Modeling the cell wall structure and machine learning for upgrading lignocellulosic intermediates to value-added polymers
9:40 - 10:00	Kiyohiko Igarashi , University of Tokyo, Japan Artificial Intelligence classifies white- and brown-rot fungi according to the number of the genes encoding Carbohydrate-Active enZyme families
10:00 - 10:20	Angel T. Martinez , CSIC, Spain Evolutionary evidence on oxidative attack of lignin at a solvent-exposed tryptophan in ligninolytic peroxidases

10h20 – 10:50	Coffee
10h50 – 11:10	Xuebin Feng , University of Toronto, Canada Engineering Amine Transaminase for Hemicellulose Amination
11:10-11:30	Susana Camarero , CSIC, Spain In vitro and in silico studies for laccase design
11h30-11:40	Flash presentations
	André Taborda , Universidade Nova de Lisboa: Unveiling catalytic and structural properties of new bacterial carbohydrate oxidases
	Clemens Peterbauer , BOKU University Vienna: Characterization of the activity of dye-decolorizing peroxidases on O-glycosides and lignocellulose

Bioconversion using single and co-cultures or natural and synthetic microbial consortia

Wade Abbott (Agriculture and Agri-Food, Canada) and Taina Lundell (University of Helsinki, Finland)

11:40 – 12h20	Keynote: Sabina Leanti La Rosa , Norwegian University of Life Sciences, Norway Microbial processing of lignocellulosic polysaccharides in gut systems
12:20 - 13:30	Lunch
13:30 - 15:00	Poster session
15:00 - 15:20	Nicolas Vita , CNRS – Aix Marseille University, Marseille, France How to handle lignin in absence of oxygen: a bacterial lesson?
15:20 - 15:40	Tina Rise Tuveng , Norwegian University of Life Science, Norway Lignin utilization by bacteria in an anerobic environment?
15:40 - 16:00	Robert Röllig , INRAE-Aix Marseille University, Marseille, France Fungal wood decay under anoxia
16:00 - 16:20	Johan Larsbrink , Chalmers University of Technology, Sweden Microbial strategies for degradation of spruce bark
16:20 - 16:40	Flash presentations
	Lison Degeilh , INRAE-BBF-Aix-Marseille University: Characterization of a novel cellulosomal enzyme reveals an unusual fold among cinnamoyl esterases
	Emeline Vernhes , TBI-INRAE-INSA-Toulouse: Probing the role of hemicellulase glycosylation in plant cell wall degradation: targeted glycosylation through click chemistry and activity monitoring in complex substrates
	Etienne Pujos , TBI-INRAE-INSA-Toulouse: Characterization of lignin degradation by specialized bacterial consortia derived from termite gut
	Cristina Gonzalez Rivero , Bavarian State Research Center for Agriculture: Development of an agricultural-residue-based medium for cultivating anaerobic fungi
16:40 - 18:30	Poster session
19:00 - 23:30	Gala dinner Hôtel Dieu



THURSDAY, 17th OCTOBER

Circular bioeconomy: valorizing lignocellulose residues and its lignin fraction

Adèle Lazuka (VERI, France)

9:00 - 9:40

Keynote : Michael O'Donohue INRAE - TBI, France

Trends in biotechnology & biomanufacturing: a European perspective.

9:40 - 10:00

Caroline Rémond INRAE- FARE Reims University, Reims, France

Multi-steps biocatalytic strategy to produce a portfolio of biomolecules of interest from lignocellulosic biomass

10:00 - 10:20

Gijs Van Erven, Wageningen University, The Netherlands

Miscanthus sinensis conversion by the white-rot fungus *Ceriporiopsis subvermispora*: Plant genotype - fungal strain harmonization for total-use cascading into constituent biopolymers

10:20 - 10:50

Coffee

10:50 - 11:10

Katja Salomon Johansen, Meliora Bio, Denmark

The Meliora Bio biorefinery: Production of dietary fiber and ethanol from wheat straw

Sustainable processes: LCA for lignocellulose bioconversion

Ingo Burgert (ETH, Zurich, Switzerland)

11:10 - 11:50

Keynote : Lorie Hamelin, INRAE TBI, France

Environmental performance of lignocellulosic biomass valorization: What did we learn from LCAs and what are the research challenges ahead?

11:50 - 12:20

Announcements and closing session

12:20 - 13:30

Lunch

Departure