RRB 2024
RENEWABLE RESOURCES & BIOREFINERIES

20th International Conference on

Renewable Resources and Biorefineries

Impacting SDGs by Renewables

5 – 7 June 2024

Brussels, Belgium

Wednesday, 5 June 2024

12.45 - 14.15 Parallel sessions

Session 1A – Albert II Hall	Session 1B – Marble Hall	Session 1C – Albert I Room
Biobased chemicals and biodegradable materials I Chair: Mario De bruyn, Circa Renewable Chemistry Institute (CRCI), UK	**Biocatalysis & novel fermentation processes I** Chair: Michael Sauer, OMV AG, Vienna, AT	**Bioenergy & thermochemical transformations** Chair: Roland Verhé, Ghent University, BE
12.45 – 13.15 **Invited talk: Continuous flow synthesis and upgrading of selected biobased chemicals derived from oil and lignocellulose derivatives** Christophe Len, PSL Research University, FR	12.45 – 13.15 **Invited talk: The UPLIFT plastic biorefinery** Cristiano Varrone, Aalborg University, DK	12.45 – 13.15 **Invited talk: Biofuels and their role to defossilize global transport sectors** Luc Pelkmans, Bioenergy, BE
13.15 – 13.35 **Poly(malic acid) (PMLA) as a bio-based polymer with excellent properties for industrial applications: From the renewable resource over L-malic acid to the ready biopolymer** Thomas Hahn, Fraunhofer Institute for Interfacial Engineering and Biotechnology, DE	13.15 – 13.35 **Gas fermentation goes thermophilic: *Thermoanaerobacter kivui* as a promising host for acetogenic fermentation of syngas from biomass gasification** Stefan Pflügl, Technische Universität Wien, AT	13.15 – 13.35 **Green energy from date seed waste: Extraction and phytochemical screening of date seed oil from date seed waste** Maria Mushtaq, Abu Dhabi Vocational Education and Training Institute, UAE
13.35 – 13.55 **Biorefinery of agri-food residues: Versatile galactaric acid from sugar beet pulp** Wouter Huijgen, Cosun R&D, NL	13.35 – 13.55 **Engineering microbial communities for the conversion of lignocellulose into green chemicals** Christina Schäfer, Helmholtz Centre for Environmental Research, DE	13.35 – 13.55 **Mild hydrothermal carbonization of biomass as pre-treatment to pyrolysis and gasification processes** Heather Wray, TNO Biobased and Circular Technologies, NL
13.55 – 14.15 **Biocatalytic production of terpene esters from flower waste** Alisa Wikaputri, University of Nottingham, UK	13.55 – 14.15 **Intensifying the production and purification of bio-based organic acids from low-pH fermentation** Sinah Tönjes, Ghent University & Bio Base Europe Pilot Plant, BE	13.55 – 14.15 **Condensation of furfural with cyclopentanone catalysed by basic metal oxides for the synthesis of precursors of aviation fuels** Marcelo E. Domine, University of Valencia, ES

14.15 – 14.35 **Coffee Break and Exhibition** **Atrium**

14.35 – 15.15 **Poster Tour 1** **Throne Hall**

15.15 – 16.15 Parallel sessions

Session 2A – Albert II Hall	Session 2B – Marble Hall	Session 2C – Albert I Room
Biobased chemicals and biodegradable materials II Chair: Chris Stevens, Ghent University, BE R	**Pretreatment and transformation of lignocellulosics I** Chair: Juan Serna, University of Valladolid, ES	**Sustainability and circular economy I** Chair: Philippe Tavernier, 3PT Consult, BE
15.15 – 15.35 **Beer spent grain for biopolymers: From laboratory to the Industry** Valentina Beghetto, University Ca' Foscari Venice & Crossing Srl, IT	15.15 – 15.35 **From feedstock variability to fibre application – Lignin valorisation routes** Holger Klose, Forschungs-zentrum Jülich, DE	15.15 – 15.35 **Deep eutectic solvents and ionic liquids: An insight into their relationship** Andrea Mezzetta, University of Pisa, IT
15.35 – 15.55 **Advanced ionothermal carbons: A biobased mesoporous material for electrochemistry and catalysis** Volker Heil, Fraunhofer UMSICHT, DE	15.35 – 15.55 **Evaluation of unsterile lignocellulosic wastewater valorization with the *kratochvilovae* and *C. oleaginosum* strains** Iris Cornet, University of Antwerp, BE	15.35 – 15.55 **Reduced environmental impacts through process-intensified conversion of lignocellulosic biomass?** Nils Rettenmaier, IFEU – Institute for Energy and Environmental Research GmbH, DE
15.55 – 16.15 **Valorizing suberin brushes on nacellulose as compatibilizer for biocomposites** Sergejs Gaidukovs, Riga Technical University, LV	15.55 – 16.15 **Alkaline pre-treatment of lignocellulosic biomass by twin-screw extrusion for the production of binderless materials by thermo-compression** Julie Cavailles, Université de Toulouse, FR	15.55 – 16.15 **From grass to gas and beyond: Anaerobic digestion as a key enabling technology for a residual grass biorefinery** Marcella Fernandes de Souza, Ghent University, BE

16.20 – 17.00 **Biobased Market pitches** (see page 14)

17.00 – 18.45 **Biobased Market** (see page 14)

Albert II Hall

Atrium

Biobased Market

Wednesday 5 June

16.20 **Introduction to the pitches** **Albert II Hall**
Chris Stevens, Ghent University, BE

16.22 **Bioeconomy Youth Vision - Five key messages on shaping the bioeconomy**
Pieter Nachtergaele, EU Bioeconomy Youth Ambassador

16.32 Biocon

16.35 VUB Research Group of Microbiology

16.38 Mevaldi

16.41 Kiemkracht - Earth Plant & Fiber vzw

16.44 Heirbaut.aLgriculture

16.47 Rejuice

16.50 Innovare

After the presentations you are invited to the Biobased Market and Networking Drink at the Atrium, a building situated adjacent to the Conference venue.

17.00 **Biobased Market and Networking Drink** **Atrium**

Exhibitors at the Biobased Market:

Biocon
Biogas-E
Biorefine Cluster Europe
Bio-based Innovation Student Challenge Europe (BISC-E)
FLAV LAB linked to LCA'Lab (INP-ENSIACET)
Green Tile BV
Heirbaut.aLgriculture together with Rejuice
Innovare Co., Ltd.
Kiemkracht - Earth Plant & Fiber vzw
Mevaldi
Somers BVBA
VUB Research Group of Microbiology

Thursday, 6 June 2024

09.00 - 10.30 Parallel sessions

Session 3A – Albert II Hall	Session 3B – Marble Hall	Session 3C – Albert I Room
Biorefining I Chair: Philippe Evon, University of Toulouse, FR	**Marine bio-economy I** Chair: Jana Asselman, Ghent University, BE	**Wood and forestry** Chair: Uģis Cābulis, Latvian State Institute of Wood Chemistry, LV
09.00 – 09.30 **Invited talk: Development of biostimulants from sunflower stalks and heads: Optimization of extraction conditions through twin-screw extrusion, bioactivity evaluation, and valorization of extrudate into biosourced materials** Philippe Evon University of Toulouse, FR & Danny Geelen, Ghent University, BE	09.00 – 09.30 **Invited talk: Unlocking the potential of bioactive metabolites in Red Algae (Rhodophyta): Addressing key challenges through integration and innovation of genomic and other molecular methods** Ilias Semmouri, Ghent University, BE	09.00 – 09.30 **Invited talk: Biobased building and construction materials using lignin** Richard Gosselink, Wageningen University, NL
09.30 – 09.50 **Furfural awakening – An intermediate for renewable fuels and chemicals** Jean-Paul Lange, Shell Global Solutions International B.V., NL	09.30 – 09.50 **Accelerating algae product development: A digital tool for enhancing economic feasibility and decision-making in the blue economy** Stefania Luzzi, Biobased & Circular Technologies, NL	09.30 – 09.50 **Optimization in the depolymerization of industrial lignin and catalyst reusability using precious metal-supported catalysts** Raphaela Süss, Wood K plus, AT
09.50 – 10.10 **Fractionation of Kraft lignin for production of alkyd resin coatings** Arpa Ghosh, VTT Technical Research Centre of Finland Ltd, FI	09.50 – 10.10 **Volatile fatty acids production from microalgae *Nannochloropsis* side-streams** Claudia Lucas Duarte, Universidade NOVA de Lisboa, PT	09.50 – 10.10 **Downregulation of caffeoyl shikimate esterase leads to saccharification improvement in field-grown poplar** Thatiane Mota, Ghent University & VIB Center for Plant Systems Biology, BE
10.10 – 10.30 **How to design a sustainable industrial bioproduction chain configuration: Development of a bioprocess model-based simulation tool to be coupled with life cycle assessment** Elise Viau, Université de Toulouse, FR	10.10 – 10.30 **Chemical characterisation of *Sargassum* seaweed from Guadeloupe and Dominican Republic** Elliot Calbrix, Laboratoire de Chimie Agro-industrielle, FR	10.10 – 10.30 **Development of binderless particleboards and composites using *Sargassum* spp. seaweeds pretreated by twin-screw extrusion** Jérôme Bauta, Université de Toulouse, FR

10.30 – 11.15 Coffee Break and Exhibition **Atrium**

11.15 - 12.45 Parallel sessions

Session 4A – Albert II Hall	Session 4B – Marble Hall	Session 4C – Albert I Room
Downstream processing Chair: Wim Soetaert, Ghent University, BE	**Sustainability and circular economy II** Chair: Jo Dewulf, Ghent University, BE	**Catalysis for renewables and kinetics** Chair: David Kubicka, University of Chemistry and Technology Prague, CZ
11.15 – 11.45 **Economic and environmental aspects of municipal solid waste biorefining to biobutanol using adsorptive sequential separation system** Keikhosro Karimi, Vrije Universiteit Brussel, BE	11.15 – 11.45 **The contribution of yeasts' biodiversity, natural or empowered by metabolic engineering, for creating novel value chains in industrial biotechnology** Paola Branduardi, University of Milano-Bicocca, IT	11.15 – 11.45 **Invited Talk: Furanics as bio-based building block: Kinetics and reactor engineering insights** Fernanda Neira D'Angelo, TU Eindhoven, NL
11.45 – 12.05 **Agro-food by products valorization in coatings and biocomposites: Chitin and biofillers from insect exoskeleton for packaging and agriculture applications** Patrizia Cinelli, University of Pisa, IT	11.45 – 12.05 **Polyurethane foams synthesized from biobased polyols derived from re-purpose used cooking oil** Miriam Cappello, University of Pisa, IT	11.45 – 12.05 **The synthesis of several chiral compounds via catalytic conversion of complex biomass** Changwei Hu, Sichuan University, CN
12.05 – 12.25 **Downstream processing of depolymerized lignin oil using nanofiltration membranes** Tim Croes, University of Antwerp, BE	12.05 – 12.25 **The potential of producing large-scale biochar from anaerobic digestion food waste by post carbonisation** Wei Li, University of Nottingham, UK	12.05 – 12.25 **Synthesis of bio-based diphenolic acid derivative: Kinetic and modelling investigation** Federica Orabona, Åbo Akademi University, FI & University of Naples Federico II, IT
12.25 – 12.45 **A tailored downstream approach for isolating caproic and caprylic acid from fermented apple pomace** Theresa Menzel, Deutsches Biomasseforschungs-zentrum gemeinnützige GmbH, DE	12.25 – 12.45 **Techno-economic investigation of simultaneous biogas combustion and upgrading via combined heat and power engine and pressure swing adsorption** Mohammad Azadi Tabar, Vrije Universiteit Brussel, Brussels, BE	12.25 – 12.45 **Catalytic synthesis of lignin-based epoxy resins: Curing kinetics and thermal properties** Giorgio Tofani, National Institute of Chemistry, SI

12.45 – 13.45 Lunch and Exhibition **Atrium**

13.45 – 14.30 **Poster Tour 2** **Throne Hall**

14.30 – 15.00 Coffee Break **Atrium**

15.00 – 16.30 Parallel sessions

Session 5A – Albert II Hall	Session 5B – Marble Hall	Session 5C – Albert I Room
Pretreatment and transformation of lignocellulosics II Chair: Ana Xavier, University of Aveiro, PT	**Biotechnology applications in the food industry I** Chair: Lore Knaepen, Flanders' Food, BE	**Polysaccharides** Chair: Pedro Fardim, University of Leuven, BE
15.00 – 15.30 **Carbohydrate transformation in spent coffee grounds: Evaluating pretreatments and enzymatic cocktail effects on oligo- and monosaccharides production** Luísa S. Serafim, University of Aveiro, PT	15.00 – 15.30 **The opportunities and challenges for biotechnology in the food industry** Lore Knaepen, Flanders' Food, BE	15.00 – 15.30 **Invited talk: Cellulose with tuned properties for utilization in advanced composite materials** Magnus Norgren, Mid Sweden University, SE
15.30 – 15.50 **Towards a complete exploitation of brewers' spent grain from a circular economy perspective** Letizia Rossato, Politecnico di Milano, IT	15.30 – 16.00 **Incorporating circularity with biomass fermentation** Stijn Boeren, Avecom, BE	15.30 – 15.50 **Thermoplastic starch-based 3D bioplastic packaging from agrifood and footwear byproducts** Idalina Gonçalves, University of Aveiro, PT
15.50 – 16.10 **Lignin recovery from Norway spruce by two-step fractionation** Medya Hatun Tanis, Lund University, SE	16.00 – 16.30 **Cultured stem cells for customized meat design** Indi Geurs, Ghent University, BE	15.50 – 16.10 **Polysaccharides as future sustainable materials: Challenges, opportunities, and future directions** Pedro Fardim, University of Leuven, BE
16.10 – 16.30 **Enzymatic and sonochemical processing to tailor the surface and functional properties of flax fibers** Thomas Peyrache, Université de Reims Champagne Ardennes, FR		16.10 – 16.30 **Dissolution and derivatization of cellulose in novel super-base ionic liquid mixed with green co-solvents** Nutan Savale, Tallinn University of Technology, EE

16.40 – 17.40 Town Halls (see page 19)

19.30 Conference Dinner and Networking Event (see page 118)

Town Hall 1: **Albert II Hall**
Green Chemistry: Sustainable Approaches in Chemical Manufacturing
Moderator: Willy Verstraete (Honorary President of the FWO, BE)

Panel:

- Ann Dierckx (Director Innovation and Circular Economy at Essencia, BE)
- Geert Reyniers (Manager Process and Technology at Worley, BE)
- Valentina Beghetto (President of Crossing, IT)
- Peter Roose (Director Sustainability Advanced Interlayers and Technology Director EMEA at Eastman, BE)
- Anwar Jardine (Associate professor at the University of Cape Town, SA)

Town Hall 2: **Marble Hall**
A European roadmap for biomanufacturing
Moderator: Nigel Mouncey (Director of the DOE Joint Genome Institute, US)

Panel:

- Bob Van Hove (Program Director at Ginkgo Bioworks, USA)
- Tineke Van hooland (President National Association for Bioindustries at EuropaBio, BE)
- Wim Soetaert (Director Bio Base Europe Pilot Plant, BE)
- Ruben Guisson (MooV Manager at VITO, BE)
- Julie Pieters (EU Public Affairs Manager at European Bioplastics, BE)

Friday, 7 June 2024

09.00 – 10.30 Parallel sessions

Session 6A – Albert II Hall	Session 6B – Marble Hall	Session 6C – Albert I Room
Biorefining II Chair: Thierry Talou, Université de Toulouse, FR	**Biocatalysis & novel fermentation processes II** Chair: Stefan Pflügl, Technische Universität Wien, AT	**Biotechnology applications in the food industry II** Chair: Carol Sze Ki Lin, City University of Hong Kong, CN
09.00 – 09.30 **Biomass characterisation and valorisation** Marieke Bruins, Wageningen Food & Biobased Research, Wageningen, NL	09.00 – 09.30 **Invited talk: Scaling biotechnological research & development: Lessons learned at Ginkgo Bioworks** Bob Van Hove, Ginkgo Bioworks, US	09.00 – 09.30 **Biopolymer waste derived biostimulants: Challenges and opportunities** Anwar Jardine, University of Cape Town, ZA
09.30 – 09.50 **Biorefinement of green leaves to produce feed and high-quality food-grade proteins using membrane filtration** Anders Kjær Jørgensen, Aalborg University, DK	09.30 – 09.50 **Continuous bioprocess for 2,3-butanediol production by *Klebsiella oxytoca* ACA-DC 1581, an optimized pilot-scale industrial fermentation** Dimitris Karayannis, Agricultural University of Athens & Verd S.A., GR	09.30 – 09.50 **Effect of methanogenic archaea presence on short-chain fatty acids production via anaerobic fermentation of agroindustrial waste** Alejandra Martorell-Múgica, IMDEA Energy, ES
09.50 – 10.10 **Development of an innovative process to recover proteins from lysed *Tetraselmis chui* by coupling extraction and separation in aqueous phase and facilitate their valorisation** Estelle Couallier, Nantes Université, FR	09.50 – 10.10 **Recycling of biodegradable plastics via open-culture anaerobic fermentation into carboxylates** Yong Jin, Wageningen University & Research, NL	09.50 – 10.10 **Development of waste biorefineries towards a circular bioeconomy** Carol Sze Ki Lin, City University of Hong Kong, CN
10.10 – 10.30 **Selective extraction of collagen from codfish skins and scales via deep eutectic solvents** Abolfazl Keshmirshekan, University of Aveiro, PT	10.10 – 10.30 **Unveiling *Gordonia*'s potential for sustainable textile recycling** Katharina Steiner, Wood K plus & University of Natural Resources and Life Sciences, AT	10.10 – 10.30 **Celery waste material: A potential source of crop protection compounds** Pierfrancesco Motti, Ghent University, BE

10.30 - 11.00 Coffee Break and Exhibition **Atrium**

11.00 – 12.30 Parallel Sessions

Session 7A – Albert II Hall	Session 7B – Marble Hall	Session 7C – Albert I Room
Biobased chemicals & biodegradable materials III Chair: Valentina Beghetto, University Ca' Foscari Venice, IT	**Biorefining III** Chair: Luisa Serafim, University of Aveiro, PT	**Biotechnology applications in the food industry III** Chair: Henrik Grénman, Åbo Akademi University, FI
11.00 – 11.30 **Invited talk: Nature's hidden tools as a new entry to create affordable β-glucans** Ronny Vercauteren, Cargill R&D Centre Europe, BE	11.00 – 11.30 **Bringing bioderived Levoglucosenone and Cyrene to a commercial reality** Mario De bruyn, Circa Renewable Chemistry Institute (CRCI), UK	11.00 – 11.30 **Valorizing food residue: Utilizing cucumber and paprika post-harvest waste for eco-friendly anthelmintics and nematode management** Katleen Raes, Ghent University, BE
11.30 – 11.50 **Synthesis of green solvents from bio-based lactones using heterogeneous copper catalysts** Federica Zaccheria, CNR – SCITEC "G. Natta", IT	11.30 – 11.50 **Valorization of a green lignocellulose biomass for biobased chemicals production in a biorefinery-like concept** Ludovica Varriale, RPTU Kaiserslautern-Landau, DE	11.30 – 11.50 **Catalytic lipophilization of natural antioxidants** Valeria Pappalardo, 'Giulio Natta' Institute of Chemical Sciences and Technologies (SCITEC) - National Research Council (CNR), IT
11.50 – 12.10 **Poly(3-hydroxybutyrate) enzymatic recycling and upcycling of hydrolysate as carbon source using degradation products** Lina Zoghbi, University of Thessaly, GR	11.50 – 12.10 **Solvent screening for the extraction of aromatic aldehydes** Alexander Kaufmann, Graz University of Technology /Institute of Chemical Engineering and Environmental Technology, AT	11.50 – 12.10 **Reverse engineering on squid waste for wastewater treatment** Pedro Nakasu, Imperial College London, UK
12.10 – 12.30 **Carbohydrate-active enzymes production by *Neofusicoccum parvum* and its enzymatic hydrolysis performance on wheat straw and grapevine canes** Julián David Restrepo-Leal, Université de Reims Champagne-Ardenne, FR	12.10 – 12.30 **Electrocatalytic conversion of glucose and xylose into value-added chemicals** Jay Pee Oña, Åbo Akademi University, FI	12.10 – 12.30 **Enzymatic protein extraction from unsorted dehydrated canned tuna side streams: Laboratory and pilot-scale experiments** Borja Lagoa Costa, ANFACO-CECOPESCA, ES

Albert II Hall

12.30 – 12.40 **Presentation of the 12th Golden Crop Award** - Thierry Talou, University of Toulouse, FR

12.40 – 12.50 **Presentation of the Awards for the best PhD talks** - Chris Stevens, Ghent University, BE

12.50 – 13.00 **Closing Remarks and Presentation of RRB 2025** - Philippe Tavernier, 3PT Consult, BE

13.00 – 14.00 Farewell Lunch

14.30 Visit of the Senate (See page 118)

Poster List – Poster Tour 1

Biobased chemicals and biodegradable materials

P1 **Synthesis, characterization and photodegradation efficiency of ZnO@Ag nanocatalyst towards atrazine in aqueous solution: Cytotoxicity activity**
Zikhona Tywabi-Ngeva, M.O. Ojemaye, I.O. Daramola, C.Y. Ojemaye (ZA)

P2 **Influence of different treatments on the structure and conversion of silicon species in rice straw to tetraethyl orthosilicate (TEOS)**
Qianxin Sun, S.S. Feng, G.Y. Li, C.W. Hu (CN)

P3 **Formulation of hydrogels and films using cellulose pulps obtained from ionoSolv pretreatment of *Miscanthus* and *Spruce* wood**
Cynthia Hopson, S. Seidner, JP. Hallett (UK)

P4 **Phytosterol stability and separation processes from post-fermentation corn oil**
Valentína Kafková, P. Ondrejíčková, L. Mareček (SK)

P5 **Towards full conversion of 2G hydrolysates with acetogenic bacteria**
Natálie Palucha, K. Quataert, E. Uitterhaegen, K. De Winter, W. Soetaert (BE)

P6 **Synthesis of bio-based polyols: Developing sustainable polymers for automotive industry**
Bruno Godinho, N. Gama, P. Madureira, G. Marques, A. Ferreira (PT)

P7 **New surfactants from agro-industry side streams**
Nicoletta Ravasio, F. Zaccheria, S. Levers, V. Pappalardo (IT & NO)

P8 **Water and oil-resistant paper coatings based on reticulated polydimethylsiloxane (PDMS) for food packaging applications**
Marina Matos, J. Correia, M.S. Coelho, P.C. Pinto, D.V. Evtuguin (PT)

P9 **Fabrication of PVA/microlignin films for food packaging with improved properties**
Pratishtha Kumari, C. Hopson, J. Hallet, V. Kumar (IN & UK)

P10 **RRB 2024: Biosourced essential oils, hydrosols, elixirs and macerates from iconic Belgian flowers for fragrance-cosmetics formulations illustrating the 20th RRB Conference anniversary**
L. Sabate, A. Miral, S. Grivot, Thierry Talou (FR)

P11 **OLYMPICS 2024: Creations of olympic and paralympic biobased fragrances and 3D printed olympic flame with biosourced PLA**
S. Diatta, A. Louge, L. Matuszkiewicz, A. Miral, S. Grivot, Thierry Talou (FR)

P12 **Citrus waste valorization for the production of a biodegradable active food-packaging material**
Diego Romano, S. Donzella, S.Farris, L. Nespoli, C. Mohan Chandrasekar, D. Carullo (IT)

P13 **Thermal stability of bio-based rigid polyurethane-polyisocyanurate foams and identification of hazardous pyrolysates in the smoke of them**
Ugis Cabulis, M. Kirpluks, S. Reinerte, A. Viksna (LV)

P14 **Halogen-free bleaching of shellac using electrochemically generated peroxodicarbonate**
Tomas Horsten, S.R. Waldvogel (DE)

P15 **Production, optimization and characterization of bacterial bio cellulose by glucanobacter isolated from date waste in UAE for its sustainable application**
Maria Mushtaq, M. AlMansoori, A. Hassan (AE)

P16 **Modification of tyrosine residues on gelatin with TAD-based click chemistry**
Ruben Raeymaekers, B. Vergauwen, C.V. Stevens (BE)

Biocatalysis and novel fermentation processes

P17 Waste valorisation: A biochemical approach to long-chain dicarboxylic acid production
Boris Gilis, E. Waeghe, N. Cop, K. De Sitter, I. Van Bogaert, I. Cornet (BE)

P18 Unravelling the mycolic acid biosynthesis regulation in R*hodococcus opacus* PD630: Identification and characterization of RV0494- AND RV2242-homologs
Paulien Leemans, I. Bervoets, E. Peeters, I. Cornet (BE)

P19 Methanogenic archaea cell factories: Transformation of growth media for more sustainable methane production processes
Marco Orthofer, C. Paulik (AT)

P20 Improving laccase manufacturing by the design of an extractive fermentation process
Flávia F. Magalhães, A.Q. Pedro, M.G. Freire, A.P. Tavares (PT)

P21 Enhanced polydopamine coating via enzymatic pathway with aqueous biphasic systems
Flávia F. Magalhães, M.L. Alfieri, M.G. Freire, A.P. Tavares, L. Panzella (PT & IT)

P22 Immobilized phospholipase D on lignin nanoparticles for the enzymatic preparation of polar head modified phospholipids
Letizia A.M. Rossato, M. Morsali, E. Ruffini, S. Serra, M. Sipponen, P. D'Arrigo (IT)

P23 Biohydrogen production as an alternative for adding value to wine and oil industry waste
Eulogio Castro, C.A.B. Silva Rebelo, I. Gómez-Cruz, A.M. Vidal, I. Romero (ES & BR)

P24 Optimization of industrially applicable microbial 1,3-propanediol production
Irene Tomico-Cuenca, H. Marx (AT)

P25 Exploring fungal co-cultures for single cell oil production using consolidate bioprocessing (CBP): Preliminary investigations
Cristian Bolaño Losada, J.P. Moran Torres, H.A.B. Wösten, B. Zimmermann, A. Kohler, V. Shapaval (NO & NL)

P26 Genetic engineering of the yeast *Starmerella bombicola* for efficient production of biosurfactants from waste streams
Stijn Bovijn, J. Martins, S. Roelants, S. De Maeseneire, W. Soetaert (BE)

Biorefining

P27 Enhancing fermentative malic acid production: Leveraging secondary substrate limitations on residue streams
Luca Antonia Grebe, P. Lichtenberg, K. Miebach, J. Magnus (DE)

P28 Capacitance measurement as a reliable and elegant way to online monitor biomass of oil producing *Ustilago maydis*
Paul Richter, M. Mann, J. Magnus (DE)

P29 Cultivation of *Ustilago maydis* based on municipal green waste for the fermentative production of itaconic acid
Marianne Volkmar, F. Bartzack, L.M. Blank, R. Ulber (DE)

P30 Enhancing biogas production from rice straw through combined mesophilic aerobic digestion and sodium carbonate pretreatment
Keikhosro Karimi, K. Karami, J.F.M. Denayer (BE)

P31 Bioactive compounds from vine shoots through microwave extraction
Inmaculada Romero, C. Muñoz-Realpe, MdM. Contreras, A. Vidal, E. Castro (ES)

P32 Valorization of vine shoots as substrates for biological hydrogen production
Inmaculada Romero, D. Cardoza, C.A.B. Silva Rabel, E. Castro (ES)

P33 Production of sugars from vine shoots by acid-catalyzed steam explosion pretreatment and enzymatic saccharification
Encarnación Ruiz, A. Vidal, D. Cardoza, I. Romero, E. Castro (ES)

P34 Microwave-intensified peroxide treatment for selective lignin removal and improved adsorption performance of agricultural waste
Dragana Mladenović, J. Grbić, A. Đukić-Vuković, Lj. Mojović (RS)

P35 Acid pre-soaking of autohydrolysed eucalyptus to improve ionosolv fractionation yields
Antonio Ovejero-Pérez, P. Verdía Barbará, P.Y.S. Nakasu, J.P. Hallett (UK & ES)

P36 Improving separation process design based on first principles predictions of phase-equilibria
Ilah Joos, F.A. Lugo, M.K. Sabbe, J. De Clercq, J. Lauwaert (BE)

P37 Production of dispersants for special carbon black by oxidization of fractionated kraft lignin
Anna Kalliola, A. Ghosh, O. Fearon (FI)

P38 FLAXIT: High-value products from flaxseed through innovative biocatalytic technologies
Iris Cornet, E. Waeghe, B. Van Droogenbroeck, H. Muylle, G. Tavernier, J. Geuens, M. Matinez, W. Dejonghe, Y. Satyawali (BE)

Poster List – Poster Tour 2

Catalysis and kinetics for renewables

P39 **Condensation of furfural with cyclopentanone catalysed by basic metal oxides for the synthesis of precursors of aviation fuels**
Francisco Cernicharo, L. Alonso-Peñalva, F. Lindo-Donet, M.E. Domine (ES)

P40 **Sustainable D-xylitol production method via catalytic transfer hydrogenation of xylose**
Danuta J. Aigner, L. Hinterholzer, L. Almhofer, R.H. Bischof, T.M. Wrodnigg (AT)

P41 **Zirconia-based catalysts for the ketonization of valeric acid**
Ali Alizadeh Eslami, D.P. Debecker (BE)

P42 **Selective oxidation of glycerol to formic acid catalyzed by $CuMgO_x$ catalysts**
Shengqi Liao, J.M. Li, Y.C. Gu, C.W. Hu (CN & UK)

P43 **Elucidating mechanism and selectivity in azine functionalization through silylium catalysis**
Zhishan Su, Y. Shen, Y. Zhang, C. Zhang, C.W. Hu (CN)

P44 **Peculiarities in deoxygenation of lignin-derived phenolics**
David Kubička, S. Dutta, J. Aubrecht, S. Saha, O. Kikhtyanin (CZ)

Downstream processing

P45 **Alternatives to replace water as an antisolvent in ionosolv lignin precipitation**
Sara Villarino, V. Rigual, A. Ovejero, F. Rodríguez, J. García (UK)

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P46 **Selective degradation of kraft lignin using peroxodicarbonate**
Niclas Schupp, S.R. Waldvogel (DE)

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P48 **Understanding climate impact on seaweed cultivation in the Belgian part of the North Sea**
S. Olyslaegers, Ilias Semmouri, C. Janssen, J. Asselman (BE)

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Thierry Talou, W. Tapia, C. Chastrette, C. Raynaud, V. Vandenbossche (FR)

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Casper Van Poucke, C. Stevens (BE)

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Talita Nascimento, M. Ramos-Andrés, A.C. Marques (PT)

P52 **From flaxseed fibers to fermentable sugars**
Evelyne Waeghe, D. Dimitrovski, J. Geerts, I. Cornet (BE & MK)

P53 **Intramolecular interaction induced C-C cleavages in fructose conversion in low dielectric non-polar aprotic solvents - Origin of the formation of excess formic acid and oligomers**
Chenyu Ge, S. Xu, C. Hu (CN)

P54 **Effect of $ALCL_3$ assisted glycerol-ethanol co-solvent pretreatment on enzymatic hydrolysis of poplar wood**
Juan Zhao, C.W. Hu, Y.C. Gu (CN & UK)

P55 **The effect of different pretreatment conditions on saccharification yields of lignin-engineered poplar**
Jordi Geerts, N. Brosse, R. Van Acker, B. De Meester, W. Boerjan, I. Cornet (BE & FR)

P56 **Optimizing fermentable sugar production from hardwood biomass for bioenergy and bioproducts**
Ana Susmozas, P. Manzanares, M.J. Negro, A. González, R. Iglesias, I. Ballesteros (ES)

P57 **Comparison of steam explosion and green solvent-reactive extrusion pretreatments for ethanol production from vine shoot biomass**
Paloma Manzanares, J.M. Oliva, A. Vidal, I. Romero, C. Alvarez, R. Cañadas, A. Duque (ES)

P58 **Effect of particle size on the extraction of triterpenic acids from residual olive skin**
I. Gómez-Cruz, M.d.M. Contreras, I. Romero, Eulogio Castro (ES)

P59 **Particle boards from steam exploded wood fibers: Impact of pretreatment on mechanical and hygroscopic properties**
Edwige Audibert, A. Quintero, F. Martel, C. Rémond, G. Paës (FR)

P60 **Organosolv process for the fractionation of eucalyptus wood: Techno-economic and life cycle assessments**
B. Serrano-Bellido, Sara Villarino, A. Ovejero-Pérez, B. García-Sánchez, V. Rigual, J.C. Domínguez, M.V. Alonso, M. Oliet, F. Rodriguez (ES & UK)

P61 **Optimizing autohydrolysis for hemicellulose removal and xylooligosaccharide recovery from peach stones**
B. García-Sánchez, A. Ovejero-Pérez, Sara Villarino, V. Rigual, J.C. Domínguez, M.V. Alonso, M. Oliet, F. Rodríguez (Es & UK)

P62 **Lignocellulose processing of poplar variants under different N fertilization treatments at mild and harsh OrganoCat conditions**
Jimena Martinez Diaz, P.M. Grande, H. Klose (DE)

P63 **Chemical composition and structural features of *Eucalyptus globulus* bark solid residue after steam explosion treatment followed by enzymatic hydrolysis**
Sandra Magina, S. Marques, F. Gírio, A. Lourenço, A. Barros-Timmons, D. Evtuguin (PT)

P64 **Utilization of novel $[MESO_3]$-based ils with excess acid for biomass fractionation**
Sarah Seidner, J. Hallett (UK)

P65 **Implementation of an alternative method for chemical characterization of non-timber lignocellulosic materials**
Ana_francis_Carballo-Arce, H. Trimiño-Vásquez, L. Roberto Villegas Peñaranda, G. Cerdas-Sánchez, M. Jiménez González (CR)

P66 **Characterization of *Eucalyptus globulus* LignoBoost® kraft lignin for biorefinery purposes**
Fábio Bernardo, D.V. Evtuguin, P. Loureiro, M. Postoronca (PT)

P67 **Lactic acid production of hydrothermal pretreated municipal woody wastes**
Ana Susmozas, C. Alvarez, M.J. Negro, D. Moreno, J.M. Oliva, I. Ballesteros (ES)

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Adrian Drescher, M. Donauer, M. Kienberger (AT)

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Jean-Michel Thomassin, X. Joppin (BE & DE)

P70 **Enhancing seafood trust: Bridging the traceability gap in Europe's sustainable seafood industry and nutrient quality assessment**
D. Baptista de Sousa, Borja Lagoa-Costa, D. Méndez, G. Ojea, C. Costas, A.G. Cabado (ES)

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M. Rodríguez Álvarez, D.A. Baptista de Sousa, P. Martínez Pavón, R. Vázquez Sobrado, V. Nóvoa Nóvoa, Borja Lagoa-Costa, D. Méndez Paz, P. Villanueva-Rey, L.J. González Monjardin (ES)

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Susana C. Pinto, B. Graça, V.G. Lopes, D.V. Evtuguin (PT)

P73 **Repurposing starch-rich potato washing slurries and tomato pomace in the development of bioplastic coatings for footwear**
Toktam Pedramram, C. Martins, S. Petronilho, M.A. Coimbra, P. Ferreira, I. Gonçalves (PT)

P74 **Life cycle assessment of suberinic acids isolated from birch outer bark**
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P75 **Life cycle assessment perspective of cellulose production by-product as a feedstock for novel bio-based thermoset polymers**
Anda Fridrihsone, R. Pomilovskis, A. Abolins, M. Kirpluks (LV)

P76 **Circular economy: Extracting high-value products for resource management with green technologies**
Ana Luísa Alves, C. Ribeiro, J. Moreira, T. Macedo, L. Vilaça, J. Oliveira (PT)

P77 **Applying Michael 1.4-addition reaction to produce bio-based thermoset foams from rapeseed oil as feedstock**
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Jean-Paul Lange (NL)

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Maria Godinho, J. Gominho, A. Lourenço, A.V. Marques (PT)

P81 **Transformation of xylose-based oligomers to enhance the carbon utilization for the production of lactic acid**
Shuguang Xu, H. Yang, C. Hu (CN)

P82 **Selective degradation of technically relevant lignin to vanillic acid and protocatechuic acid**
Finn Moeller, J. Klein, S.R. Waldvogel (DE)

Valorization of food residues

P83 **Optimization of feather pretreatment for microbial hydrolysis and further valorization**
Clémentine Isembart, C. Bolaño Losada, B. Zimmermann, A. Kohler, M. Oostindjer, J. Matic, N.K Afseth, S.J. Horn, V. Eijsink, Shapaval (NO)

P84 **Bioconversion of secondary cheese whey to microbial biomass and metabolites by yeasts and microalgae: A two-stage approach**
Gabriel Vasilakis, A. Ntzouvaras, S. Marka, D. Karayannis, E. Flemetakis, S. Papanikolaou (GR)

P85 **Valorization of blackcurrant pomace via acid-free microwave-assisted hydrothermal fractionation for pH-responsive bio-based film production**
Natthamon Inthalaeng, T.I.J. Dugmore, A.S. Matharu (UK)

P86 **Development of a bioactive bubble tea based on pectin-chitosan-strawberry hydrogels**
Kyriaki Tsirtsidou, Y. Zou, J. Robbens, K. Raes (BE)

P87 **Depolymerisation of biopolyester from tomato peel with microwave-assisted hydrolysis**
Constanza Maciel, M.J. Cocero Alonso, R.B. Mato Chaín (ES)

P88 **Valorisation of carrot pomace in third generation bioethanol production**
Sevgi Ertuğrul Karatay, I. Kasap, A. Kut, G. Dönmez (TR)

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Sara Viggiano, R. Argenziano, M.A. Del Nobile, A. Conte, L. Panzella, A. Napolitano (IT)

P90 **A rational cascade disassembly of spent coffee grounds into phenols, lignin and fermentable sugars for green active packaging**
Rita Argenziano, I. Corrado, E. Borselleca, F. Moccia, L. Panzella, C. Pezzella (IT)

P91 **Biorefinery processes for the valorisation of residual green seaweeds in Galicia**
D. Méndez Paz, R. Vázquez Sobrado, D.A. Alonso Baptista de Sousa, Borja Lagoa-Costa (ES)

P92 **One-pot simultaneous saccharification and production of bio-based malic acid using waste potato biomass**
Deeksha Gopaliya, V. Kumar, S.K. Khare (IN & UK)

Wood and forestry

P93 **Effect of bio-based polyol on the structure and properties of catalyst-free polyurethane-wood composites (PU-WC)**
Adam Olszewski, P. Kosmela, Ł. Piszczyk (PL)

P94 **Two alternative paths to full suberin analysis with a single GC run**
Maria Godinho, J. Gominho, A. Lourenço, António V. Marques (PT)

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P95 **Efficacy of oxy-steam gasification from biomass: Production of renewable hydrogen appropriate for use in hydrotreated esters and fatty acids route of sustainable aviation fuels**
Madhumita Gogoi Saikia, M. Baratieri, L. Menin (IT)

P96 **Bio-based plasticised films created with carrot waste hydrolysis fractions and soy protein**
Juan García-Serna, A. Arribas, K.C. Núñez, D.A. Cantero (ES)

P97 **Topochemistry and structural modifications on different fibres after enzymatic oxidation with laccases**
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P98 **Application of xylan extracted from grass residues as surface coating on kraft pulp for packaging paper materials**
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