RRB 2022

RENEWABLE RESOURCES & BIOREFINERIES

18th International Conference on

Renewable Resources and Biorefineries

Biobased Solutions for Climate Change

1 - 3 June 2022

Bruges, Belgium

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medicongress
conference & association management

MEDICONGRESS
Noorwegenstraat 49, B-9940 Evergem
Phone: +32 (0)9 218 85 81
Organization: Mrs Els Vertriest - els@medicongress.com
Registration: Ms Astrid Dedrie - astrid@medicongress.com
www.medicongress.com

Welcome to RRB 2022

Society in general and its consumers, as well as the industrial and agricultural production sectors, are now increasingly convinced that a switch from a fossil based economy towards one that is based on renewable resources has become imminent. This switch is essential to counteract the negative effects of climate change, air pollution, waste accumulation, dwindling fossil resources, and unreliable energy and power supply. In this context, sustainable development is crucial for the wellbeing of the next generations. Striving towards establishing a circular or reuse economy, increasingly based on using renewable resources, is a challenge for society, with science and technology being important to provide solutions. Interdisciplinary teams of scientists, engineers, biotechnologists and policymakers have to collaborate more intensively to adequately deal with these challenges.

Our series of RRB-conferences (now in its 18th edition) offer such an opportunity. Delegates from university, industry, governmental and non-governmental organizations will present their research and views on sustainable (green) chemistry, industrial biotechnology and on agricultural policy related to the use of renewable raw materials for non-food applications and energy supply. This will be presented in plenary and oral presentation sessions and poster tours. New research concepts but also new policies related to the circular bio-economy and the sustainable production of biochemicals and bio-materials will be discussed and exchanged with several industrial companies and vice versa.

The conference program is organized in 3 parallel sessions and includes 3 keynote lectures, 14 invited lectures and 74 high quality oral presentations by international experts and PhD students, covering both scientific, technical and policy aspects of the bio-based economy. This year there is a 4th parallel session on Wednesday afternoon, organized by BioRen.

From 1 to 3 June 2022, Bruges will host the 18th edition of the **International Conference on Renewable Resources and Biorefineries (RRB 2022).**

We hope that this specialist forum for renewable resources, green chemistry, industrial biotechnology, and biorefineries will stimulate the transition from a fossil-based to the bio-based economy.

The sessions deal with these topics:

- Biobased chemicals and biodegradable materials
- Biocatalysis & novel fermentation processes
- Bioenergy & future mobility
- Biorefining
- CO_2 capture and utilisation
- Food and agricultural wastes
- Horizon 2020/Horizon Europe
- Marine bio-economy
- Polysaccharides
- Sustainability analysis
- Wood and forestry

Information on the preceding conferences can be found at **https://rrbconference.com/programme-previous-editions/**

We wish you an instructive Conference and a pleasant stay in Bruges!

The RRB 2022 Organizing Committee

Prof. Christian Stevens
Prof. Wim Soetaert
Ir. Philippe Tavernier
Em. Prof. Erick Vandamme

Introduction to the Programme

This three-day international conference consists of 3 keynote lectures, 14 invited lectures and 74 oral presentations. Furthermore 2 poster tours are scheduled, one on Wednesday and one on Thursday.

The conference takes place at the **Bruges Meeting & Convention Centre (BMCC).** The floor plan of the venue available on page 2.

The Opening and Closing Sessions and the keynote lectures will take place in the Auditorium on the 1st floor.

The invited lectures and oral presentations are held in three conference rooms: the Auditorium on the 1st floor and Rooms B and C on the 3rd floor.

Posters will be on display in the Foyer on the 1st floor. The authors of the posters are requested to be present at their posters during the poster tours.

The abstract book contains the abstracts of the invited lectures, the oral presentations and the posters. A poster list per topic is also included.

The Organizing Committee does not take responsibility for factual or typographical errors found in the abstracts.

Poster and PhD Short Communication Awards

During the Conference, the Poster Jury will select the 3 Best Posters. The **3 Best Poster Awards** will be presented during the Conference Dinner on Thursday 2 June. The 3 winners will receive a book offered by **Wiley**. In addition, the winner of the 1st prize will also receive the **RRB Poster Award**.

Additionally, the **FEMS Best Poster Award** for the best poster in the field of microbiology will also be presented during the Conference Dinner on Thursday 2 June.

There will also be awards this year for the **3 Best PhD Talks**: the winners of these Awards will be announced during the Closing Session on Friday 3 June. They will receive a book voucher offered by the **Royal society of Chemistry**.

Photo Contest: The 10th Golden Crop Award – Anniversary Edition

We have the pleasure to announce that there will be a Scientific Photo Contest at RRB 2022 again: the 10th **GOLDEN CROP AWARD.**

Indeed, with the goal to associate Art to Science, 4A7, DO IT! organizes a photo contest which was open to researchers and PhD students with an oral communication or a poster at RRB 2022.
All photos will be on display during the Conference. Participants are invited to cast their vote for the Best Photo of 2022, by using the ballot paper they will find in their conference bag.

The winning photo will be presented with the **10th GOLDEN CROP AWARD**, an Extreme Sports Cam INTEMPO and local specialties.

Additional Prize Draw
Furthermore, all participants casting a vote for the **10th Golden Crop Award** are offered the opportunity to deposit their business card in a special box: one lucky winner will receive a local specialty.

The winners will be announced during the Closing Session on Friday 3 June.

Wednesday, 1 June 2022

09.00 – 10.00 Registration

Auditorium

10.00 – 10.30 **Official Opening of RRB 2022**
Chris Stevens, Ghent University, BE

Welcome to West-Flanders
Bart Naeyaert, Deputy of the Province of West Flanders

Opening Plenary Session

10.30 – 11.15 **Keynote Lecture 1**
Climate in crisis: Recent developments
Peter Wittoeck
Head of Climate Change Department at Federal Public Service Health, Food Chain Safety and Environment

11.15 – 12.00 **Keynote Lecture 2**
New chemistry design for 100% natural derived, readily biodegradable & sustainable petroleum jelly suitable for cosmetic applications
Emmanuel PJM Everaert
Cargill Beauty, Principal Scientist Lead, Paris, France

12.00 – 13.00 Lunch and exhibition **Foyer**

Wednesday, 1 June 2022

13.00 - 14.30 Parallel sessions

Auditorium - Session 1A	Room B - Session 1B
Biobased chemicals and biodegradable materials I Chair: Piet Bogaert, Cargill, BE	**Biocatalysis & novel fermentation processes I** Chair: Marjan De Mey, Ghent University, BE
13.00 – 13.30 **Invited talk - Bio-mass valorisation to produce high level chemicals** Valentina Beghetti, Crossing, PT	13.00 - 13.30 **Invited talk - Extreme halophiles as next-generation cell factories for the production of bioplastics** Eveline Peeters, Vrije Universiteit Brussel, BE
13.30 – 13.50 **From lignin to added value materials** Katrien Bernaerts, Maastricht University, NL	13.30 – 13.50 **Enhancement of butanol production from rice straw in continuous ABE fermentation using immobilized Clostridium acetobutylicum** Carlos Silvestre, University of Valencia, ES
13.50 – 14.10 **Understanding lignocellulose recalcitrance for improved biomass processing** Holger Klose, Forschungs-zentrum Jülich, DE	13.50 – 14.10 **Precision fermentation for reliable, resilient and responsible agricultural practices** Chiara Guidi, Ghent University, BE
14.10 – 14.30 **Green chemistry and white biotechnology join forces: Synthesis of novel sophorolipid derivatives** Melike Pala, Ghent University, BE	14.10 – 14.30 **Improving bioprocess efficiency by in situ adsorption of itaconic acid from fermentation broths** Johannes Pastoors, RWTH Aachen University, DE

Wednesday, 1 June 2022

Room C - Session 1C	Room D - Session 1D
Bioenergy & future mobility I Chair: Guido Reinhardt, IFEU, DE	**Waste2Fuels – Organised by BioRen** Chair: Roland Verhé, Ghent University
13.00 – 13.30 **Invited talk - Maximising bioenergy sustainability** Mirjam Röder, Aston University, UK	13.00 - 13.30 **Sustainable technologies for the production of second generation fuels and energy from biomass** Roland Verhé, Ghent University, BE
13.30 – 13.50 **Catalytic liquefaction of wheat straw and semi-operando characterization of catalysts** Aisha Matayeva, Aarhus University, Aarhus, DK	13.30 – 13.50 **Novelyeast: Secretory expression of heterologous cellobiohydrolase-I and endoglucanase improves the simultaneous saccharification and co-fermentation of pre-treated wastepaper and cardboard fiber to ethanol** Saju Varghese, KU Leuven & NovelYeast b.v, BE
13.50 – 14.10 **On the development of sulphur absorbing materials for catalytic hydrothermal gasification** Hang Xiang, Paul Scherrer Institute (PSI), Villigen, CH	13.50 – 14.10 **Waste-to-sugars: A sustainable feedstock for biobased chemistry** Emile Redant, Renasci NV, BE
14.10 – 14.30 **A feasibility study on the bioconversion of industrial crude glycerol to butanol by Clostridium Pasteurianum DSM 525** Alejandro Ortega, Universitat de València, ES	14.10 – 14.30 **Fermentative isobutanol production from paper and cardboard waste derived sugars applying different In Situ Product Recovery techniques** Cedric Vandercruysse, Bio Base Europe Pilot Plant, BE

14.30 – 15.30 Coffee Break and Exhibition and **Poster Tour 1** **Foyer**

18th International Conference on Renewable Resources and Biorefineries, Bruges - Belgium, 1 - 3 June 2022

15.30 – 17.00 Parallel sessions

Auditorium - Session 2A	Room B - Session 2B	Room C - Session 2C
Biobased and biodegradable materials II Chair: Katrien Bernaerts, Maastricht University, NL	**Polysaccharides** Chair: Pedro Fardim, KU Leuven, BE	**Bioenergy & future mobility II** Chair: Juan Serna, University of Valladolid, ES
15.30 – 16.00 **Marigold or Calendula officinalis, a novel oil crop for pharmaceutical and industrial applications** Hilde Muylle, ILVO, Melle, BE	15.30 – 16.00 **Invited talk - Marine-derived polysaccharides as multifunctional building-blocks in biomedical applications** João F. Mano, University of Aveiro, PT	15.30 – 16.00 **PyroMar - Blendstock for conventional marine fuels derived from biomass residues and biogenic waste** Volker Heil, Fraunhofer UMSICHT, Oberhausen, DE
16.00 – 16.20 **New development of solid foam catalysts for production of sugar alcohols** Tapio Salmi, Åbo Akademi, Turku/Åbo, FI and Universidad de Valladolid, ES	16.00 – 16.20 **Extraction of polysaccharides and lignin from sugarcane bagasse** Nga Thi-Thanh Pham, Université de Toulouse, FR	16.00 – 16.20 **Biodiesel production prepared by transesterification of coffee oil extracted from spent coffee grounds** Valentína Kafková, Association Energy 21, Leopoldov, SK
16.20 – 16.40 **Impact of water on VOC emissions from wood-based biomaterials** Elise Bertheau, Université de Toulouse, FR	16.20 – 16.40 **Hydrothermal treatment of kraft black liquor for conversion of carbohydrates to carboxylic acids** Silvia Maitz, Graz University of Technology, AT	16.20 – 16.40 **Diversifying products portfolio of anaerobic digestion: Fermentative pH as key factor** Cristina González-Fernández, IMDEA Energy, ES
16.40 - 17.00 **Tailoring poplar lignin without yield penalty by CRISPR/Cas9** Barbara De Meester, Ghent University, BE	16.40 - 17.00 **Use of microencapsulation by Spray Drying to preserve biological properties of a Mimosa tenuiflora aqueous extract** Laura Cadenillas, Université de Toulouse, FR	16.40 - 17.00 **Comparison of strategies for integrated bioconversion of Eucalyptus globulus bark into cellulosic ethanol** Mariana Amândio, University of Coimbra and University of Aveiro, PT

17.00 - 19.00 Guided visit of the city (see page 123)

19.00 Welcome Reception at the Town Hall (see page 123)

Thursday, 2 June 2022

09.00 - 10.30 Parallel sessions

Auditorium - Session 3A	Room B - Session 3B	Room C - Session 3C
Biorefining I Chair: Rafa Luque, University of Cordoba, ES	**Marine bio-ecenomy I** Chair: Jana Asselman, Ghent University, BE	**Wood and forestry** Chair: Ugis Cabulis, Latvian State Institute of Wood Chemistry, LV
09.00 – 09.30 **'Lignin-first', beyond monophenolic compounds** Joseph Samec, Stockholm University, SE	09.00 – 09.30 **Invited talk - Multiproduct microalgae biorefineries with aqueous two phase systems** Michel Eppink, WUR, NL	09.00 – 09.30 **Invited talk - Nanolignin: A new perspective in renewable resources** Claudia Crestini, Ca' Foscari University of Venice, IT
09.30 – 09.50 **Creating value from residual grass for feed applications through microalgal cultivation on grass juice** Marcella Fernandes de Souza, Ghent University, BE	09.30 – 09.50 **Biorefinery of the green seaweed Ulva lactuca: Protein fraction for aquafeed and carbohydrates for microbial polyesters production** Maria Teresa Cesário, Universidade de Lisboa, PT	09.30 – 09.50 **Fractionation of kraft lignin by aqueous hydrotropic solutions** Rita Gaspar, KU Leuven, BE
09.50 – 10.10 **Optimization of extraction conditions and production of indigo dye from isatis tinctoria** Julia Mocquard, Université de Toulouse, FR	09.50 – 10.10 **Quantification of extracellular proteases and chitinases from marine bacteria and their application on marine crustacean processing side streams for bioactivity screening** Yang Zou, Ghent University, BE	09.50 – 10.10 **Production of microcrystalline cellulose (MCC) from sawdust waste biomass** Jerome Andrew, Council for Scientific and Industrial Research (CSIR), ZA
10.10 – 10.30 **Biorefinery of tomato pomace to obtain bioactive fractions and biobased materials** Aya Jamaleddine, Université de Toulouse, FR	10.10 – 10.30 **Lipid extraction in microalgal biorefineries: A COSMO-RS approach** Laura König-Mattern, Max Planck Institute, Magdeburg, DE	10.10 – 10.30 **Fed-batch strategies for production of optically pure lactic acid from softwood** Joana Campos, Lund University, Lund, SE

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

11.15 - 12.45 Parallel sessions

Auditorium - Session 4A	Room B - Session 4B	Room C - Session 4C
Food and agricultural wastes Chair: Inge Arents, Flanders' FOOD, BE	**Marine bio-economy II** Chair: Ann Overmeire, Blauwe Cluster, BE	**CO_2 capture and utilisation I** Chair: Wim Van der Stricht, Arcelor, BE
11.15 – 11.45 **Invited talk - Valorisation of waste streams at the core of Citribel's sustainability strategy** Emmanuel Raskin, Citribel, BE	11.15 – 11.45 **Production of protein-rich powders from the red macroalga Gelidium sesquipedale and from its industrial residues** Marília Mateus, Universidade de Lisboa, PT	11.15 – 11.45 **Invited talk - Capturing Carbon. Creating Value** Babette Pettersen, Vice President Europe LanzaTech, Skokie, IL, USA
11.45 – 12.05 **Biopolymer waste valorisation: Challenges and opportunities** Anwar Jardine, University of Cape Town, ZA	11.45 – 12.05 **Tetraselmis suecica cell destruction by high-pressure homogenization for proteins recovery** Pauline Delran, Université de Toulouse, FR	11.45 – 12.05 **Acetic acid: A CO2-derived platform chemical for the energy-efficient production of biochemicals** Koen Quataert, Bio Base Europe Pilot Plant, BE
12.05 – 12.25 **Solid state fermentation as a valorisation strategy of fruit and vegetable discards: Effect on nutritional composition and added-value compound release** Marta Cebrian, Basque Research and Technology Alliance, ES	12.05 – 12.25 **Microalgae potential in the capture of carbon dioxide emission** Francesca Frongia, University of Modena and Reggio Emilia, IT	12.05 – 12.25 **CO2 emission-lean iron production from mineral iron carbonate with consecutive process gas upgrading to methane and methanol - A holistic technology concept** Sascha Kleiber, Graz University of Technology, AT
12.25 – 12.45 **Bioproduction of natural pigments by microorganisms growing on agro-industrial co-products** Mathieu Cassarini, Université de Reims Champagne Ardenne, FR	12.25 – 12.45 **Integrating extraction and fractionation of a marine pigment using hydrophobic eutectic solvents** Mariam Kholany, University of Aveiro, PT	12.25 – 12.45 **Anaerobic co-fermentation of syngas for sustainable biobased carboxylates** Flávio Baleeiro, Karlsruhe Institute of Technology, DE

12.45 – 13.30 Lunch and Exhibition **Foyer**

13.30 – 14.30 **Poster Tour 2** & Coffee Break **Foyer**

14.30 - 16.00 Parallel sessions

Auditorium - Session 5A	Room B - Session 5B	Room C - Session 5C
Sustainability analysis Chair: Luisa Serafim, University of Aveiro, PT	**Biocatalysis & novel fermentation processes II** Chair: Erick Vandamme, Ghent University, BE	**Horizon 2020/Horizon Europe** Chair: Volker Heil, Fraunhofer UMSICHT, DE
14.30 – 15.00 **Invited talk - Waste and wastewater valorisation with open mixed microbial cultures: bioenergy, renewable chemicals, challenges and opportunities for a sustainable society** Davide Dionisi, University of Aberdeen, UK	14.30 – 15.00 **Biocatalytic solutions for the sustainability of cyanide-using industries** Ludmila Martínková, Institute of Microbiology AS CR, CZ	14.30 – 15.00 **Upgrading bio-oil from residual lignocellulosic biomass by combined hydropyrolysis and hydrodeoxygenation** Adriana Estrada Leon, Ghent University, BE
15.00 – 15.20 **Spent coffee waste and orange peel valorisation via biorefinery development for the production of value-added co products and microbial oil** Nikolaos Giannakis, Agricultural University of Athens, GR	15.00 – 15.20 **Valorization of lignocellulose by fungal-bacterial co-culture** Ludovic Besaury, Université de Reims, FR	15.00 – 15.20 **Novel purification routes for crude glycerol from biodiesel plants as a suitable feedstock for sustainable aviation fuel** Taha Attarbachi, University of Manchester, UK
15.20 – 15.40 **Is it worth biorefining botanicals for the production of high added value functional ingredients?** Petras Rimantas Venskutonis, Kaunas University of Technology, LT	15.20 – 15.40 **How nutrient limitation modify the diversity of bacteria producing mcl-polyhydroxyalkanoate bioplastics in fed-batch process** Emilie Alaux, Toulouse Biotechnology Institute Bio & Chemical Engineering, FR	15.20 – 15.40 **Sustainable fuels made from biobased residues – Demonstration on long-term operating plant** Jan Grunwald, Fraunhofer UMSICHT, DE
15.40 - 16.00 **Residual biomass mobilisation strategies based on intermediate bioenergy carriers** Myrsini Christou, Center for Renewable Energy Sources and Saving, Athens, GR	15.40 – 16.00 **Discovery of a kojibiose hydrolase by analysis of specificity-determining correlated positions in family GH65** Emma De Beul, Ghent University, BE	15.40 - 16.00 **Experimental simulation of the outdoor humidity in Western Europe and its effect on the properties of flax fibre reinforced composites** Gilles Koolen, KU Leuven, BE

16.00 - 16.45 Biobased Market pitches (see page 19) **Auditorium**

16.45 - 18.15 Biobased Market (see page 19) **Foyer 3rd floor**

19.30 RRB Conference Dinner at Brewery Halve Maan (see page 123)

Valorisation routes for agro-industrial side-streams – suggestions from three BBI-JU projects PROLIFIC, INGREEN and model2bio

Open to all RRB participants

Thursday 2 June

Room D, 3rd floor

13.30 **Welcome**
Rita Hochstrat, FHNW School of Life Sciences, CH

13.35 **Project overviews**
Tamara Fernández-Arévalo, CEIT Asociación Centro Tecnológico, ES (model2bio)
Narinder Bains, ineuvo, UK (INGREEN)
Annalisa Tassoni, University of Bologna, IT (PROLIFIC)

13.50 **Physico-chemical extraction and biotechnological processes**

The use of microorganisms in valorisation of agri-food residues
Lolke Sijtsma
Wageningen Food & Biobased Research, Wageningen University and Research, NL

Biotechnological strategies to valorise whey
Davide Gottardi, University of Bologna, IT

Extraction of phenolic compounds from coffee and artichoke by-products
Job Tchoumtchoua and Etienne Maron
Celabor, BE

14.35 **Break**

14.50 **From process development to manufacturing level**

Results and learnings from up-scale extraction trials
Nico Snoek
Bio Base Europe Pilot Plant, BE

From agri-food waste to biobased chemicals
Eric Rovira
CEIT Asociación Centro Tecnológico, ES

Production of milling by-product pre-fermented ingredients: from lab to industrial scale
Lorenzo Siroli
University of Bologna, IT

15.35 **Analysis of valorisation routes and regulatory boundaries**

Modelling tool for agri-food residual streams valorisation
Sofía Jaray, Tamara Fernández-Arévalo
CEIT Asociación Centro Tecnológico, ES

Life cycle and economic consideration in new biobased value chains
Dirk Hengevoss
FHNW School of Life Sciences, CH

Regulatory aspects
Edward Sliwinski
European Federation of Food Science & Technology FFoST, NL

16.20 **Closing remarks**

16.00 –16.45 **Presentations** **Auditorium**

- BISC-E team Reuseful
- BISC-E team Valorised Carbon
- Tintu
- Pro Natura
- Sam Serveert
- Tree Flower Solutions
- VEG-i-TEC
- Biorefine Cluster Europe
- Tamini/ Powertrees

Award Ceremony BISC-E Contest

16.45 – 18.15 **Biobased Market and Reception** **Foyer 3rd Floor**

Visit of the stands and networking

In addition to the above listed companies and projects you can also visit

- Lab LCA- Catar
- B-COS
- PROLIFIC - FHNW School of Life Sciences

Friday, 3 June 2022

08.45 – 10.15 Parallel sessions

Auditorium - Session 6A	Room B - Session 6B	Room C - Session 6C
Biorefining II Chair: Wim Soetaert, Ghent University, BE	**CO2 Capture and utilisation II** Chair: Klaus Kümmerer, Leuphana Universität, DE	**Biocatalysis & novel fermentation processes III** Chair: Ana Xavier, University of Aveiro, PT
08.45 – 09.15 **One flow through hydrolysis and hydrogenation of semi-industrial xylan from birch (betula pendula) in a continuous reactor – kinetics and modelling** Henrik Grénman, Åbo Akademi University, FI	08.45 – 09.15 **Highly efficient and flexible: Acetogens as promising hosts for the utilization of CO2-derived miscible and gaseous one-carbon feedstocks** Stefan Pflügl, Technische Universität Wien, AT	08.45 – 09.15 **Glycoside phosphorylases in multi-enzyme cascade system for the biosynthesis of functional cello-oligosaccharides** Chao Zhong, Graz University of Technology, AT
09.15 – 09.35 **Amine-based extractants for isolation of carboxylic acids from complex, biobased process streams** Paul Demmelmayer, Graz University of Technology, AT	09.15 – 09.35 **Improvement of power to PHA pathway: Mixed colture fermentation of hydrogen within biochar based materials** Yusuf Küçükaga, University of Bologna, Ravenna, IT and Gebze Technical University, Kocaeli, TR	09.15 – 09.35 **Improving microbial oils production from short-chain fatty acids by evolutionary engineering: Caproic-rich media as challenging substrate** Elia Tomás-Pejó, IMDEA Energy, Madrid, ES
09.35 – 09.55 **Valorisation of sugar industry by products via biorefinery development for the production of bacterial cellulose and value-added co-products** Maria Varvara Sarafidou, Agricultural University of Athens, GR	09.35 – 09.55 **Techno-economic and GHG reduction potential evaluation of carbon negative polymer production** Kristian Melin, LUT University, FI	09.35 – 09.55 **Microbial funneling of pyrolysis product for the production of green chemicals: Preliminary investigations with microbial mixed cultures** Andrea Facchin, University of Bologna, IT
09.55 – 10.15 **Production of organic acids from a perennial ryegrass with a biorefinery view** Ludovica Varriale, Technical University of Kaiserslautern, DE	09.55 – 10.15 **Catalyst screening, kinetic and reactor modelling of epoxide carbonation** Wander Y. Peréz-Sena, Åbo Akademi University, Åbo, FI and Normandie Université, FR	09.55 – 10.15 **Investigation of alternative feedstocks based on municipal green waste for conventional and electro-assisted fermentations** Marianne Volkmar, Technical University of Kaiserslautern, DE

10.15 - 10.45 Coffee Break and Exhibition **Foyer**

10.45 – 11.15 **Keynote Lecture 3 - Electrifying organic synthesis** **Auditorium**
Siegfried Waldvogel, Johannes Gutenberg-University Mainz, Germany

11.15 – 12.45 Parallel sessions

Auditorium - Session 7A	Room B - Session 7B	Room C - Session 7C
Biorefining III Chair: Tapio Salmi, Akademi University, Åbo, FI	**Food & agricultural waste** Chair: Katleen Raes, Ghent Univerity and Veg-i-tec, BE	**Biobased & biodegradable materials III** Chair: Chris Stevens, Ghent University, BE
11.15 – 11.45 **Sustainable approach to biomass fractionation for integration into biorefineries** Eva Balaguer, Technical University of Denmark, Kongens Lyngby, DK	11.15 – 11.45 **Extending the craft beer tasty lifetime with by-products of the wine and chestnut production – The Bio4Drinks Project** João Gonçalves, Tree Flowers Solutions Lda, Bragança, PT	11.15 – 11.45 **Lignin-first via reductive catalytic fractionation to make lignocellulosic biorefinery more sustainable** Majd Al-Naji, Max Planck Institute of Colloids and Interfaces, Potsdam, DE
11.45 – 12.05 **Production of single cell protein for human consumption from a green biorefinery residual stream** Natália Hachow Motta dos Passos, Aarhus University, DK	11.45 – 12.05 **Extraction of bioactive molecules from tomato greenhouse waste using green solvents** Adrian Drescher, Graz University of Technology, AT	11.45 – 12.05 **Applications of biobased levoglucosenone and derivatives** Jane Murray, Merck KGaA, Darmstadt, DE
12.05 – 12.25 **Flax by-products create business** Jasmine Versyck, ILVO, Melle, BE	12.05 – 12.25 **Sustainable extraction of keratin from renewable raw materials using ionic liquids** Cariny Polesca, University of Aveiro, PT	12.05 – 12.25 **Production of platform chemicals from biomass in on-farm biorefinery** Katarzyna Swiatek, University of Hohenheim, DE
12.25 – 12.45 **The recycling of low-cost protic ionic liquids for efficient butanol production from rice straw** Helena Poy, University of Valencia, ES	12.25 – 12.45 **Physico-chemical characterization of date fruit pomace, an underutilized waste bioresource** Sabeera Haris, United Arab Emirates University, AE	12.25 – 12.45 **The Levoglucosenone (LGO) biorefinery: The interactions and reactions of LGO and Cyrene with water** Majed Almuqhim, University of York, UK

12.45 – 12.55 **Presentation of the 10th Golden Crop Award** **Auditorium**
Thierry Talou, University of Toulouse, FR

12.55 – 13.05 **Presentation of the Awards for the Best PhD Talks**
Wim Soetaert, Ghent University, BE

13.05 – 13.15 **Closing Remarks and Presentation of the RRB 2023**
Wim Soetaert, Ghent University, BE

13.15 – 14.00 **Farewell Lunch**

14.15 – 18.00 Optional visit - Flanders Marine Institute (see page 123)

Poster List – Poster Tour 1

Biobased chemicals and biodegradable materials

P1 **Integration of heterogeneous catalysis and solvent effects on lignin structural features during organosolv pretreatment**
Tina Ročnik, B. Likozar, E. Jasiukaitytė-Grojzdek, M. Grilc (SI)

P2 **Scaffolding for product yield maximization of fine chemicals in microbial cell factories**
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