RRB-14

RENEWABLE RESOURCES & BIOREFINERIES

200 YEARS
GHENT
UNIVERSITY

14th International Conference on Renewable Resources and Biorefineries

30-31 May &
1 June 2018

Ghent, Belgium

Final Program

ITN GREEN CHEM

200 YEARS
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POM
maakt werk van West-Vlaanderen

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Wednesday, 30 May 2018

09.30 – 10.15 Registration

10.30 – 10.45 **Official Opening of RRB-14 & Welcome Addresses** **Refter**
Christian Stevens and Wim Soetaert, Ghent University, BE

Welcome to Ghent
Rik Van de Walle, Rector of Ghent University, BE
Daan Schalck, CEO North Sea Port, BE

Opening Plenary Session
Chairs: Christian Stevens and Wim Soetaert, Ghent University, BE

10.45 – 11.15 **The EU's climate policy framework for 2030 and the Paris Agreement: How can bio-renewables make the difference?**
Simon Kay, Senior Expert, Directorate General 'Climate Action', EU

11.15 – 12.00 **A new biodegradable plastic made from plants**
Gadi Rothenberg, University of Amsterdam, NL

12.00 – 13.00 Lunch and Exhibition **Kapittel Room**

Wednesday, 30 May 2018

13.00 - 14.30 Parallel sessions

Refter - Session 1A	Room Vermeylen - Session 1B	Room Blancquaert - Session 1C
Biobased materials - I Chair: Waldemar Rymowicz, WUELS, PL	**Biocatalysis for bioresource transformation – I** Chair: Erick Vandamme, Ghent University, BE	**Biomass fractionation** Chair: Pedro Fardim, University of Leuven, BE
13.00 – 13.30 **Chitin purification from side streams of the *Hermetia illucens* cultivation and succeeding chitosan production for textile applications** Thomas Hahn, Fraunhofer IGB, DE	13.00 – 13.30 **Using clarifier mud as carbon source for biofuel and solvent production** K. Thomas Klasson, U.S. Dept. of Agriculture, USA	13.00 – 13.30 **Practical aspects of lignin analysis from fundamentals to application** Ewellyn Capanema, RISE Research Institutes of Sweden, SE
13.30 – 13.55 **Medium chain length polyhydroxyalkanoates production from fruit pulp waste and biodiesel glycerol by *P. chlororaphis*** João Ricardo Pereira, Universi-ade Nova de Lisboa, PT	13.30 – 13.55 **Calcium oxide enrichment for improved biodiesel production** Jorge Mario Marchetti, Norwegian University of Life Sciences, NO	13.30 – 13.55 **Selective production of xylose from xylo-oligomers and actual biomass** Changwei Hu, Sichuan University, CN
13.55 – 14.20 **Characterization and long term thermal stability of succinic acid based bio-polyesters** Matthias Steffen, Thünen Institute of Agricultural Technology, DE	13.55 – 14.20 **Using structural insights to understand and improve lignin degradation by bacterial enzymes** Rachael Wilkinson, University of Warwick, UK	13.55 – 14.20 **OrganoCat: Biomass fractionation for an integrated biorefinery concept to fully valorise lignocellulosic biomass** Philipp M. Grande, Institute of Bio- and Geosciences, IBG-2, DE
14.20 – 14.30 **The sustainable synthesis and application of urazoles** Laetitia Vlaminck, Ghent University, BE	14.20 – 14.30 **Exploring the sequence diversity of glycoside phosphorylases reveals two novel enzyme specificities** Jorick Franceus, Ghent University, BE	14.20 – 14.30 **Utilization of apple pomace for biotechnological processes** Laslo Eidt, Thünen Institute of Agricultural Technology, DE

Kapittel Room

Refter

Practical in terms of its production from biomass

14.30 - 15.15 Coffee Break and Exhibition

15.15 - 16.00 **Keynote Lecture**
CMF is the new HMF: Functionally equivalent but more practical in terms of its production from biomass
Mark Mascal, University of California, Davis, USA

16.00 - 17.20 Parallel sessions

Refter - Session 2A	Room Vermeylen - Session 2B	Room Blancquaert - Session 2C
Biobased materials - II Chair: Stan Bielecki, Lodz University, PL	**Bioactive compounds from biomass** Chair: Thierry Talou, University of Toulouse, FR	**Bioenergy** Chair: Wim Soetaert, Ghent University, BE
16.00 – 16.30 **Toward carbon fibers from single component kraft lignin systems** Dimitris S. Argyropoulos, North Carolina State University, USA	16.00 – 16.30 **Renewable binderless boards molded using vegetable proteins and lignocellulosic fibers: Enhancement of their characteristics through twin-screw extrusion refining and fiber textile architecture** Philippe Evon, University of Toulouse, FR	16.00 – 16.30 **Impact of acidity and macroporosity on catalytic upgrading of fast pyrolysis bio-oil by esterification over silica sulfonic acids** Jinesh C. Manayil, Aston University, UK
16.30 – 16.55 **Investigation of biobased 2-component epoxy resin systems as binder for electrode application in lithium-ion batteries** Helene Jeske, Thünen Institute of Agricultural Technology, DE	16.30 – 16.55 **Natural variability of *Cynara cardunculus* leaves biomass – A source of cynaropicrin** Maria F. Duarte, Instituto Politécnico de Beja, PT	16.30 – 16.55 **Potential biodiesel feedstock - Indian perspective** Chhavi Aggarwal, Delhi Technological University, IN
16.55 – 17.20 **Sustainable production of lactic acid through the exploitation of defatted rice bran** Maria Alexandri, Leibniz-Institute for Agricultural Engineering and Bioeconomy, DE	16.55 – 17.20 **Development of novel functional proteins and bioactive ingredients: Proof of concept in pilot scale** Christian Lorentz Bagger, Danish Technological Institute, DK	16.55 – 17.20 **Scientific and technical hurdles of solid anaerobic digestion** Thierry Ribeiro, UniLaSalle, FR

17.30 **Guided city tour** (see page 110)

18.30 **Welcome Reception at the Town Hall offered by the Mayor of Ghent** (see page 110)

Thursday, 31 May 2018

09.00 - 10.30 Parallel sessions

Refter - Session 3A	Room Vermeylen - Session 3B	Room Blancquaert - Session 3C
Pretreatment and transformation of lignocellulosics Chair: Wout Boerjan, VIB - Flanders Life Sciences Research Institute, BE	**Nutrient recycling: Biofertiliser production** Chair: Erik Meers, Ghent University, BE	**Chemical platform molecules - I** Chair: Chris Stevens, Ghent University, BE
09.00 – 09.30 **Lignin depolymerization and fractionation in flow-through systems** Gregg Beckham, National Renewable Energy Laboratory, USA	09.00 – 09.17 **Renu2Farm: Establishing a market for recycling-derived fertilizing products** Bernhard Wern, IZES, DE	09.00 – 09.30 **Xylochemistry – Making complex and useful molecules from wood** Till Opatz, Mainz University, DE
09.30 – 09.55 **Valorization of lignin residues - Enzyme one-pot system for the construction of lignin-based composites** Madalina Tudorache, University of Bucharest, RO	09.17 – 09.35 **Nutrient recovery from wastewaters as high-valued hydroponic and horticultural fertilizer products using hybrid ion exchange nanotechnology** Céline Vaneeckhaute, Université Laval, CA	09.30 – 09.55 **Furylated flavonoids: New fully bio-based phenolic building blocks from condensed tannins** Laurent Rouméas, Montpellier SupAgro, FR
09.55 – 10.20 **Advanced pulping of perennial plants - Synergies between pretreatment and feedstocks** Holger Klose, RWTH Aachen University, DE	09.35 – 09.50 **Legislation on recycled-derived fertiliser products** Laura van Schöll, Nutrient Management Institute, NL	09.55 – 10.20 **High purity fructose from inulin with heterogeneous catalysis – From batch to continuous operation** Henrik Grénman, Åbo Akademi University, FI
10.20 – 10.30 **Study of the temperature and sodium hydroxyde concentration for a cost-effective thermo-mechano-chemical pretreatment to obtain second generation bioethanol** Monica Del Carmen Fong Lopez, University of Toulouse, FR	09.50 – 10.05 **Substitution of synthetic nitrogen fertilizer by recycled alternative: Results from a field trial with maize** Anke De Dobbelaere, Inagro, BE	10.20 – 10.30 **Glycolaldehyde as a bio-based platform molecule for reductive amination reactions** William Faveere, KU Leuven, BE
	10.05 – 10.20 **The BioRefine Cluster Europe community group on Nutrient Recycling: A collaborative framework of European projects resulting in higher impact and research capitalisation** Evi Michels, Ghent University, BE	
	10.20 – 10.30 **Discussion**	

10.30 - 11.15 Coffee Break and Exhibition **Kapittel Room**

11.15 - 12.45 Parallel sessions

Refter - Session 4A	Room Vermeylen - Session 4B	Room Blancquaert - Session 4C
Biocatalysis for bioresource transformation – II Chair: Tom Desmet, Ghent University, BE	**Nutrient recycling by algae for the circular economy** Chair: Erik Meers, Ghent University, BE	**CO_2 Utilisation** Chair: Korneel Rabaey, Ghent University, BE
11.15 – 11.45 **Biocatalytic transformations of sucrose for advanced sugar beet biorefinery** Bernd Nidetzky, Graz University of Technology, AT	11.15 – 11.32 **Introducing ALG-AD: Nutrient recycling by algae for the circular economy** Carole Lewellyn, Swansea University, UK	11.15 – 11.45 **Riding the Carbon Cycle** Peter Styring, University of Sheffield, UK
11.45 – 12.10 **Sweet glycosylation with glucansucrases: Improving the taste of stevia** Tim Devlamynck, Bio Base Europe Pilot Plant, BE	11.32 – 11.50 **Nutrient (C, N, S) acquisition by microalgae and its consequences for biomass composition** Mario Giordano, Universita' Politecnica Delle Marche, IT	11.45 – 12.10 **Switching yeast metabolism to efficiently assimilate CO_2** Matthias G. Steiger, ACIB GmbH/BOKU, AT
12.10 – 12.35 **Chain elongation enables production of high-value chemicals from wastes** Ramon Ganigué, Ghent University, BE	11.50 – 12.05 **Struvite precipitation from pyrolysis bio-oil aqueous phases for nutrients recovery and recycling for a sustainable algal production** Mohamed Ali Wahab, Aston University, UK	12.10 – 12.35 **Metabolic pathway engineering in *Cupriavidus necator* as performant platform for biofuel and chemicals production from CO_2** Stéphane E. Guillouet, University of Toulouse, FR
12.35 – 12.45 **Online determination of the metabolic and enzymatic activity of *Ustilago maydis* on pectic substrates** Markus Müller, RWTH Aachen University, DE	12.05 – 12.20 **The role of decision support in developing an algae based circular economy** Christelle Harrison, Birmingham City University, UK	12.35 – 12.45 **The anaerobic digester's microbiome for CO_2-based biorefinery application** Martin Lesniak, Bioenergy2020+ GmbH, AT
	12.20 – 12.35 **Mixotrophic cultivation of Chlorella on anaerobic digestate: Technical challenges and production issues** Denis de la Broise, Université de Bretagne Occidentale, FR	
	12.35 – 12.45 **Discussion**	

12.45 - 13.30 Lunch & Exhibition **Kapittel Room**

13.30 - 14.30 **Poster Tour 1** **Zuidergang**

Thursday, 31 May 2018

14.30 - 16.00 Parallel sessions

Refter - Session 5A	Room Vermeylen - Session 5B	Room Blancquaert - Session 5C
Micro & macro algal technology - I Chair: Koenraad Muylaert, KULAK, BE	**Thermochemical transformations of biomass** Chair: Juan Serna, University of Valladolid, ES	**Bioproducts from woody biomass** Chair: Ugis Cabulis, Latvian State Institute of Wood Chemistry, LV
14.30 – 15.00 **CO_2 fixation by microalgae from coal-fired flue gas to produce biodiesel** Jun Cheng, Zhejiang University, CN	14.30 – 15.00 **Thermochemical fractionation of biomass via fast pyrolysis** Bert van de Beld, BTG, NL	14.30 – 15.00 **Commercialization of the biobased dipolar aprotic solvent Cyrene** Jeffrey Eaves, Circa Sustainable Chemicals Ltd, UK
15.00 – 15.25 **Potential of nanotechnology in multifunctional materials for integrating downstream processes in microalgal biorefinery** Praveen Ramasamy, KU Leuven, BE	15.00 – 15.25 **Simultaneous enhance of pyrolysis oil quality and production of value added chemicals through distillation and pervaporation** Tobias M. Brueckner, Memorial University of Newfoundland, CA	15.00 – 15.25 **Valorisation of lignin feedstocks: Production of bioplastics using *Rhodococcus jostii*** Campbell Tang, Redcar, UK
15.25 – 15.50 **Development of biofuel production process from wet microalgae by liquefied dimethyl ether** Motonobu Goto, Nagoya University, JP	15.25 – 15.50 **Carbothermal reduction cooperated by nitrogen dopant in activation of biomass derived N-doped carbon for supercapacitors** Shicheng Zhang, Fudan University, CN	15.25 – 15.50 **Polyurethane foams obtained from the second generation feedstock – Pulp production by-products** Ugis Cabulis, Latvian State Institute of Wood Chemistry, LV
15.50 - 16.00 **Properties of modified cellulose nanocrystals for the flocculation of fresh and marine microalgae** Jonas Blockx, KU Leuven University, BE	15.50 – 16.00 **Co-pyrolysis of softwood and mussel shells improves liquid fuel and char properties** Anke Krutof, Memorial University of Newfoundland, CA	15.50 – 16.00 **Hemicellulose fractionation by multistep ultrafiltration of liquid effluents from a hydrothermal process** Marta Ramos-Andrés, University of Valladolid, ES

16.00 – 16.30 Coffee Break and Exhibition **Kapittel Room**

16.30 – 17.00 **Keynote Lecture**
An overview of the opportunities for the bio-industry in Canada: From renewable electricity to renewable carbon
Jean-Michel Lavoie, Biomass Technology Laboratory, Université de Sherbrooke, Québec, Canada

17.00 - 18.30 Parallel sessions

Refter - Session 6A	Room Vermeylen - Session 6B	Room Blancquaert - Session 6C
Biorefineries - I Chair: James Clark, University of York, UK	**Chemical platform molecules - II** Chair: Chris Stevens, Ghent University, BE	**Sustainability & circular economy** Chair: Philippe Tavernier, Development Agency of West Flanders (POM West Flanders), BE
17.00 – 17.30 **Waterfinery: Green conversion of biomass waste to biopolymers and biomolecules using water-based solvents** Pedro Fardim, KU Leuven, BE	17.00 – 17.30 **Synthesis of 100% renewable glycolipids from lignocellulose** Katrin Ochsenreither, Karlsruhe Institute of Technology (KIT), DE	17.00 – 17.30 **Sustainable chemistry as an indispensable basis of a circular economy: Opportunities and challenges** Klaus Kümmerer, Leuphana University Lüneburg, DE
17.30 - 17.55 **Biorefineries having edible filamentous fungi at the central core** Jorge A. Ferreira, University of Borås, SE	17.30 - 17.55 **From fundamental insights to economic viability: Valorization of minors from deodorizer distillates** Alexandra Bouriakova, Ghent University, CaRE/ INKAT, BE	17.30 - 17.55 **Sustainability of autotrophic and heterotrophic microalgae and cyanobacteria cultivation: Life cycle assessment of food and feed intermediates** Sergiy Smetana, German Institute of Food Technologies - DIL e.V., DE
17.55 – 18.20 **Ex-ante techno-economic assessment of two routes from C6 sugars to bio-based chemicals** Iris Vural Gursel, Utrecht University, NL	17.55 – 18.20 **Systematic study of cellulose pyrolysis to valuable chemicals over zeolite catalyst** Alisa Doroshenko, University of York, UK	17.55 – 18.20 **Reconsidering biomass policy considering resource efficiency, sustainability and economic competitiveness** Asha Singh, Imperial College London, UK
18.20 – 18.30 **Extraction and characterization of bioactive fractions from food industry co-products: Two case studies** Alice Delvar, University of Toulouse, FR	18.20 – 18.30 **Influence of oxygen transfer capacity on 2,3-butanediol production with *Bacillus licheniformis*** Benedikt Heyman, RWTH Aachen University, DE	18.20 – 18.30 **Flowsheet tool for the development of a wastewater biorefinery** Charlotte Wessels, University of Cape Town, ZA

19.30 **Conference Dinner and Networking Event** (see page 111)

Friday, 1 June 2018

09.00 - 10.30 Parallel sessions

Refter - Session 7A	Room Vermeylen - Session 7B	Room Blancquaert - Session 7C
Biorefineries – II Chair: Danny Geelen, Ghent University, BE	**Downstream processing** Chair: Tony Kiss, University of Manchester, UK	**Valorization of biomass waste streams – I** Chair: Wim Soetaert, Ghent University, BE
09.00 – 09.30 **Investigation of sugar-platform biorefinery processes of agro-industrial residues** Csaba Fehér, Budapest University of Technology and Economics, HU (ID	09.00 – 09.30 **Intensified downstream processing in biofuels production** Costin Sorin Bildea, University Politehnica of Bucharest, RO	09.00 – 09.30 **EU-Project REHAP: Creating novel materials from agricultural and forestry waste** Karel De Winter, Bio Base Europe Pilot Plant, BE
09.30 – 09.55 **Novel assays for the measurement of glucuronyl esterase and α-glucuronidase, two enzymes involved in lignin and hemicellulose hydrolysis** Artur Rogowski, Megazyme, IE	09.30 – 09.55 **Towards selective valorisation of volatile fatty acids to improve product specificity in the carboxylate platform** Pieter Naert, Ghent University, BE	09.30 – 09.55 **New Zealand's Bioresource Processing Alliance (BPA)** Paul Rose, Callaghan Innovation, NZ
09.55 – 10.20 **Spinning out from an EU research project - The story so far** Daniel Hayes, Celignis Ltd, IE	09.55 – 10.20 **Intensified downstream processing of biobutanol by integrated distillation** Iulian Patrascu, University "Politehnica" of Bucharest, RO	09.55 – 10.20 **Transforming food and textile wastes to high value-added products** Carol Sze Ki Lin, City University of Hong Kong, HK
10.20 – 10.30 **Insects as alternative source of chitin** Lise Soetemans, VITO, BE	10.20 – 10.30 **Performance of seashell powder as phosphate adsorbent in fermentation broth** Jan Christoph Peinemann, Leuphana University Lüneburg, DE	10.20 – 10.30 **A biomimetic adhesive from lignin** Charlotte C. Capitain, University of Kaiserslautern, DE

10.30 – 11.30 Coffee Break, Exhibition & **Poster Tour 2** **Kapittel Room & Zuidergang**

11.30 - 13.00 Parallel sessions

Refter - Session 8A	Room Vermeylen - Session 8B	Room Blancquaert - Session 8C
Metabolic engineering of cell factories Chair: Marjan De Mey, Ghent University, BE	**Micro & macro algal technology - II** Chair: Jun Cheng, Zhejiang University, CN	**Valorization of biomass waste streams - II** Chair: Sofie Dobbelaere, Ghent University, BE
11.30 – 12.00 **New tools for metabolic engineering of *Pichia pastoris*** Anton Glieder, TU Graz, Austria	11.30 – 12.00 **Algae Foundation, Algae Technology Educational Consortium (ATEC) and the Algae Academy: Algal-based STEM education initiatives for a sustainable future and the development of the bioeconomy workforce** Ira Levine, Algae Foundation and Southern Maine, USA	11.30 – 12.00 **Synthesis and applications of 6-deoxy-6-amino-chitosan** Anwar Jardine, University of Cape Town, ZA
12.00 – 12.25 **Tailor-made transcriptional biosensors for optimizing microbial cell factories** Brecht De Paepe, Ghent University, BE	12.00 – 12.25 **Control of contamination in large-scale microalgal cultures** Koenraad Muylaert, KU Leuven University, BE	12.00 – 12.25 **Comparative study between chemical and natural surfactants obtained from secondary raw materials** Ana B. Moldes, University of Vigo, ES
12.25 – 12.50 **Synthetic and diverse - Microbiology on duty in industry** Michael Sauer, BOKU University of Natural Resources and Life Sciences, AT	12.25 – 12.50 **Heterotrophic production of *Chlorella protothecoides* microalgae using expired juices as alternative carbon source** Marta Cebrián, AZTI- Tecnalia, ES	12.25 – 12.50 **Algae versus insects: What is the most efficient way of utilizing organic residues?** Daniel Pleissner, Leuphana University of Lüneburg, DE
12.50 – 13.00 **Simultaneously mutating the lignin genes *CSE1* and *CSE2* in poplar to improve saccharification efficiency** Alexandra Alvarenga Chanoca, Ghent University/ VIB Center for Plant Systems Biology, BE	12.50 – 13.00 **Technological challenges for the local cultivation and (pre-) processing of seaweed products in Flanders (Belgium)** Lien Loosvelt, Development Agency of West-Flanders, BE	12.50 – 13.00 **Isolation and modification of side-stream rapeseed proteins from the oil industry as a renewable ingredient for technical applications** Andreas Fetzer, Technical University of Munich, DE

13.00– 13.30 **Closing Ceremony**
Philippe Tavernier, Development Agency of West Flanders (POM West Flanders), BE

Announcement of the winner of the FEMS Best Poster Award
Michael Sauer, BOKU University of Natural Resources and Life Sciences, AT

Announcement of the winners of the Best PhD Short Communication Awards
Erick Vandamme, Ghent University, BE

Announcement of the winner of the 7th Golden Crop Award
Thierry Talou, University of Toulouse, FR

Presentation of RRB-15

13.30 Farewell Lunch

14.30 – 17.30 **Boat trip Port of Ghent** (see page 111)

Kapittel Room

Poster List – Poster Tour 1

Bioactive compounds from biomass

P1 **Surface active molecules of marine bacterial origin - Characterisation and functionality: Horizon 2020 MARISURF project**
Karina Salek, A.A. Zompra, G.A. Spyroulias, T. Gutierrez, S.R. Euston (UK & GR)

P2 **Antiproliferative effects of a lipophilic eucalyptus bark extract on breast cancer cells**
A.R. Guerra, C. Calçada, B.I.G. Soares, A. Paulino, M. Castro, H. Oliveira, C.S.R. Freire, A.J.D. Silvestre, C. Lima, C. Wilson, Maria F. Duarte (PT)

P3 **High-throughput optimization of the lipopeptide biosurfactant pseudofactin production**
Piotr Biniarz, F. Coutte, F. Gancel, M. Łukaszewicz (PL & FR)

P4 **Potential utilization of unavoidable food supply chain wastes – Valorisation of mango peel waste**
Hao Xia, A. Matharu (UK)

Biobased materials

P5 **Biomaterial production analysis and optimization with process simulation tools**
Demetri Petrides, D. Carmichael, Y. Stavropoulos (USA)

P6 **Improving the melt-processing of biopolymer nanocellulose composites through 'green' interface modification**
Pieter Samyn, D. Vandamme, R. Carleer (BE)

P7 **Synthesis of PHB micro- to nanoscale particles for bio-based packaging**
Pieter Samyn, V.K. Rastogi (BE)

P8 **Lipid accumulation in the long-chain dicarboxylic acid producing *Candida tropicalis* yeast**
Jordy Bauwelinck, I. Cornet, M. Wijnants, S. Tavernier (BE)

P9 **Synthesis and characterization of methylsuccinic acid based biopolymers**
Johannes Paas, H. Storz (DE)

P10 **Structure and composition of biological cuticle samples**
Pieter Samyn, Y. Politi, I. Doench, L. David, C. Peniche, M.A. Ramirez, G. Sudre, A. Osorio-Madrazo (BE, DE, FR & CU)

P11 **Influence of potassium concentration on the growth and PHB formation behavior of *Bacillus megaterium* uyuni S29 CECT 7922**
Maximilian Schmid, H. Song, M. Kacanski, M. Neureiter (AT)

P12 **BIOREF-MAP: Sustainable biorefinery of aromatic plants for an environmental friendly production of essential oils, biosourced active molecules and biomaterials**
Thierry Talou, G. Costa, M. El Kady, O. Fort, A. Jauretche, A. Marsal, P. Nair, R. Ravaute, T. Sohet, S. Grivot, V. Simon, P. Evon (FR)

P13 **Building materials - A comparative study of VOC emission rates involving commercial glued wood panels and fiberboards resulting from a coriander biorefinery**
A. Robillard, E. Uitterhaegen, O. Merah, S. Ballas, T. Véronèse, T. Talou, Philippe Evon, V. Simon (FR)

Biocatalysis for bioresource transformation

P14 **Valorization of alpha-pinene from turpentine - Two-phase biocatalytic system for alpha-pinene transformation into verbenol/verbenone**
Madalina Tudorache, A. Negoi, I. Podolean, C. Sora, V.I. Parvulescu (RO)

P15 **Laccase detoxification of steam-pretreated poplar biomass**
Iris Cornet, V. Sóti (BE)

P16 **Cost-effective enzyme production & application in biorefinery**
Frits de Wolf, C. Boeriu, B. van den Broek (NL)

P17 **Lipase-catalyzed esterification of glycolic acid produced from the oxidation of glycerol**
A. Aljawish, J. Le Nôtre, Renato Froidevaux (FR)

P18 **Advancement of enzymatic depolymerization of lignins: Novel approach for development of high-throughput oxidoreductase screening tools**
J. Dillies, V. Senez, C. Vivien, Rénato Froidevaux (FR)

P19 **Hybrid catalysis, an efficient multi-step (bio)catalytic process for the direct production of 5-HMF from glucose**
A. Gimbernat, P. Dhulster, F. Dumeignil, D. Delcroix, N. Lopes Ferreira, J.S. Girardon, Rénato Froidevaux (FR)

P20 **High-throughput screening of enzymatic cocktails obtained from the interaction of fungi with wheat straw**
R. Raulo, E. Heuson, A. Siah, P. Halama, F. Krier, P. Reignault, V. Phalip, Renato Froidevaux (FR)

Bioenergy

P21 **Controlling the growth of nickel phosphide catalysts via adjustment of surface group distribution of activated carbon on hydrodeoxygenation of palmitic acid**
H. Xin, W. Zhou, K. Zhou, X. Du, D. Li, Changwei Hu (CN)

P22 **A novel all in one process for lignocellulosic bioethanol production, using an innovative pre-treatment for a fed batch simultaneous sacharification and co-fermentation at high consistency**
A. Fougerouse, E. Lombard, E. Berdy, C. Bideaux, S. Alfenore, Stéphane Guillouet, X. Cameleyre (FR)

P23 **Evaluation of ethanol production from renewable cellulosic resources using process simulation tools**
Demetri Petrides, A. Roussos, Y. Stavropoulos (USA)

P24 **Amaranth as biomass for bioenergy**
Kakha Nadiradze (GE)

P25 **Advanced biodrying processes to produce biomass fuel from low-porosity and high-moisture organic wastes**
N. Guerra, B. Puyuelo, L. Llenas, J. Colón, Sergio Ponsá (ES)

Nutrient and energy cycling

P26 **Systemic large scale eco-innovation to advance circular economy and mineral recovery from organic waste in Europe**
Oscar F. Schoumans, I.C. Regelink, E. Meers, I. Hermann, E. Snauwaert, A. Williams (NL, BE & AT)

P27 **The sewage sludge compost gasification, energy recovery and phosphate rich fertilizer production from ashes**
Fabian Ahlhelm (LU)

P28 **Phos4you: Phosphorus fertilizers recovered from municipal wastewater and their quality assessment**
Aleksandra Bogdan, I. Sigurnjak, E. Michels, E. Meers (BE)

P29 **Systemic – Nutrient recovery from anaerobic digestate of biowaste: Technical assessment of full scale installations throughout Europe**
Claudio Brienza, I. Sigurnjak, E. Michels, O, Schoumans, E. Meers (BE & NL)

P30 **Valorisation of agricultural wastewaters into alternative proteins using *Lemna***
Reindert Devlamynck, C. Coudron, E. Michels, I. Sigurnjak, J. Leenknegt, M. Eeckhout, E. Meers (BE)

P31 **Transfontier transport of manure in Europe**
Katharina Laub, S. Kay, C. Ziegler (DE)

P32 **Developing and evaluating of biofertilizers from agriculture and food waste: Agrocycle's comprehensive approach**
Mesfin Gebremikael, S. De Neve (BE)

P33 **Analytical pyrolysis of biochar to predict the stability of biochar**
R.M. Dilani Chathurika, F. Ronsse, O. Mašek (BE & UK)

P34 **SYSTEMIC: Carbon and nitrogen mineralization potential of solid fraction of digestate used as soil improvers**
Caleb Elijah Egene, I. Sigurnjak, I. Regelink, O. Schoumans, E. Michels, E. Meers (BE & NL)

P35 **Living biofertilisers: Live endophytic microbes as crop growth promoters**
Kieran J. Germaine, D.N. Dowling (IE)

P36 **Biorefine cluster Europe – A meta-cluster of European projects joining forces**
Evi Michels, I. Sigurnjak, A.S. Arnau, E. Meers (BE)

P37 **N mineralization kinetics of organic wastes in French cultivated soils, Arvalis database based on in field and incubation results**
Robert Trochard, A.Bouthier (FR)

P38 **BioRefine Cluster Europe – Developing triple helix communities in the biobased economy**
Ivona Sigurnjak, E. Michels, A.S. Arnau, E. Meers (BE)

Nutrient recycling by algae for the circular economy

P39 **Integrated Life Cycle Assessment (LCA) of a combined algae-AD process**
Cristina Onorato, C. Rösch (DE)

P40 **Exploiting intermittent feeding strategy for improved dark-coloured poultry litter management and bioproduct recovery: Microalgal based approach**
Jai Sankar Seelam, A. Karemore, R. Sen (IN & BE)

P41 **Lab and pilot infrastructure for R&D and industrial surveillance in anaerobic digestion**
Amr Chamaa, B. Willems (BE)

Circular Economy

P42 **The role of social economy in an integrated local decentral biorefinery: From green waste to green resources**
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