

## SCHEDULE



5<sup>th</sup> Latin American Congress on  
**Biorefineries**  
From laboratory to industrial practice  
January 7-9, 2019 - Concepción, Chile

### MONDAY 7<sup>TH</sup>

- 09:00 – 09:30 Registration
- 09:30 – 09:45 Opening: Alex Berg, Chairman of the Organizing Committee
- 09:45 – 10:30 **PLENARY SESSION**  
**Co-processing of biomass in traditional refineries.**  
Eduardo Falabella, Universidade Federal do Rio de Janeiro, Brazil.
- 10:30 – 11:00 Coffee break

### ENVIRONMENT

- 11:00 – 11:35 **KEYNOTE SPEAKER**  
**Environmental impact of crops and agricultural residues as feedstocks for bio-based product development.**  
Marisol Berti, North Dakota State University, United States.
- 11:35 – 11:55 **Evaluation of biomass-based value chains combining geographical information systems (GIS) and operations research techniques.**  
Magnus Fröhling, TU Bergakademie Freiberg, Germany.
- 11:55 – 12:15 **Acceptance of bioenergy in Chile – an empirical analysis of public opinion.**  
Kira Schumacher, Institute for Industrial Production (IIP), Karlsruhe Institute of Technology (KIT), Germany.
- 12:15 – 13:15 Lunch
- 13:15 – 13:35 **Integrated logistics for improved feedstock quality and consistency.**  
Timothy Riels, University of Tennessee, United States.
- 13:35 – 13:55 **A sustainable supply chain design for phase III biorefinery: a Colombian case study.**  
Andrea Espinoza Pérez, Universidad de Santiago de Chile, Chile.
- 13:55 – 14:15 **Novel and sustainable biorefinery concept based on green technologies for corn, wheat, and rapeseed residues.**  
María E. Martínez, Fraunhofer Chile Research Foundation – Center for systems biotechnology, Chile.
- 14:15 – 16:05 Coffee & Posters

### ADHESIVES

- 16:05 – 16:40 **KEYNOTE SPEAKER**  
Antonio Pizzi, University of Lorraine, France.
- 16:40 – 17:00 **Phenolic resins derived from medium boiling fraction of fast pyrolysis oil – application as wood glue for non-load-bearing wooden materials.**  
Tim Schulzke, Fraunhofer UMSICHT, Germany.
- 17:00 – 17:20 **Sustainable Biomaterials for wood panels adhesives.**  
Bruno Gorrini, Bioforest, Chile.
- 17:20 – 17:40 **Ecofriendly adhesives based on pine bark extracts.**  
Felipe Guzmán, UDT, Chile.
- 17:40 – 18:00

### FOOD ADDITIVES

- KEYNOTE SPEAKER**  
Claudia Mardones, Universidad de Concepción, Chile.
- Organosolv lignin-ester derivatives as UV protection agent for poly(lactic acid) (PLA).**  
Jalel Labidi, University of the Basque Country, España.
- Metabolomics in Forest Species to Identify Chemical Responses to Biotic Stressors: the beginning of bioactive phytochemical discovery and application.**  
Andy Pérez, Universidad de Concepción, Chile.

- South American fruits, a source of bioactive compounds**  
Guillermo Schmeda-Hirschmann, Instituto de Química de Recursos Naturales, Universidad de Talca, Chile.
- Juan Pablo González, Universidad de Concepción, Chile.

### ALGAE

- KEYNOTE SPEAKER**  
**Algae based biorefineries: boon or bane? Lessons learnt from a decade of research and demonstration units worldwide.**  
Guido A. Reinhardt, IFEU-Institute for Energy and Environmental Research, Wilckensstraße 3, Germany.
- Functional biomaterials from macroalgae: Experiences from the laboratory to the field.**  
Cristian Agurto, Universidad de Concepción, Chile.
- Modelling the effect of environmental conditions on microalgae's growth during continued culture.**  
Héctor Zúñiga, Pontificia Universidad Católica de Valparaíso, Chile.

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### TUESDAY 8<sup>TH</sup>

#### CELLULOSE MICROFIBRILS

- 9:00 – 9:35 **KEYNOTE SPEAKER**  
**Deep eutectic solvent treatments in a production of nanocelluloses.**  
Henrikki Liimatainen, University of Oulu, Finland.
- 9:35 – 9:55 **Comparison between two methods of pretreatment of agriculture waste for the production of cellulose nanofibrils.**  
Gianluca Ottolina, Istituto di Chimica del Riconoscimento Molecolare, Italy.
- 9:55 – 10:15 **Current studies on nanocellulose applications in food and pharmacy fields at West Virginia University.**  
Gloria Oporto, West Virginia University, United States.
- 10:15 – 10:35 **Biorefinery: macro, micro and nanocellulose fibers from forest and agro-industrial waste.**  
Lourdes M. Orejuela, Universidad San Francisco de Quito, Ecuador.
- 10:35 – 10:55 **Preparation and caracterización of  $\beta$ -chitin microfibrils (ChMF) from squid fishery wastes.**  
Gustavo Cabrera, UDT, Chile.
- 10:55 – 11:15 **The role of the degree of polymerization of cellulose in the deconstruction of the cell wall for obtaining cellulose nanofibrils (NFC).**  
Miguel Pereira, Universidad de Concepción, Chile.

11:15 – 11:35

11:35 – 12:00 Coffee break

#### BIOPLASTICS

- 12:00 – 12:35 **KEYNOTE SPEAKER**  
**Biodegradable films based on blends of PVA and bio-oil from lignin.**  
Jalel Labidi, University of the Basque Country, Spain.
- 12:35 – 12:55 **Novel strategies for the developing “superabsorbent polymers” based on pine bark polyflavonoids for environmental applications.**  
Danny E. García Marrero, UCSC, Chile.
- 12:55 – 13:15 **A novel PHA synthetization technique and its environmental advantage in terms of microplastic impacts.**  
Giovanna Croxatto Vega, Technical University of Denmark, Denmark.
- 13:15 – 13:35
- 13:35 – 14:45 Lunch
- 14:45 – 15:20 **KEYNOTE SPEAKER**  
**Toughening of PLLA by various poly(caprolactone-co-(D-lactic acid)) copolymers.**  
Dr. Stephan Kabasci, Fraunhofer UMSICHT, Germany.
- 15:20 – 15:40 **Physicochemical characterization of poly-3-hydroxybutyrate produced by *Bulkholderia xenovorans* LB400.**  
Claudia Sanhueza, Universidad de La Frontera, Chile.
- 15:40 – 16:00 **Synthesis and process engineering of glycerol based polyesters as toughness enhancers for commercial bioplastics.**  
Oscar Valerio, Universidad de Concepción, Chile.
- 16:00 – 16:20 **Development and characterization of novel active biomaterials intended for food packaging application.**  
Aleksandra Nestic, UDT, Chile.

16:20 – 17:30 Coffee & Posters

21:00 **OFFICIAL DINNER**

#### RESIDENTIAL WASTE

- KEYNOTE SPEAKER**  
Carla Pérez, UDT, Chile.
- Combustion of refined renewable biomass fuel (RRBF) in a fluidized bed.**  
Tim Schulzke, Fraunhofer UMSICHT, Germany.
- Updraft gasification of municipal solid waste with pollutant emissions reduction.**  
Einar Blanco Machin, Universidad de Concepción, Chile.
- Pyrolysis of municipal solid waste in Chile: An economic and environmental assessment.**  
Tobias Zimmer, Karlsruhe Institute of Technology (KIT), Germany.
- Advanced thermoconversion process for municipal and hazardous solid wastes treatment.**  
Daniel Travieso Pedroso, UDT, Chile.
- Pyrolysis of post-consumer plastics waste.**  
Juan Toledo, UDT, Chile.

#### CARBON MATERIALS

- KEYNOTE SPEAKER**  
**Hydrothermal carbonisation – routes to functional carbons and applications in biorefinery-related catalysis.**  
Robin J. White, Sustainable Catalytic Materials, Fraunhofer ISE, Germany.
- Graphitization of loblolly pine wood and bio-choice lignin investigated by in-situ x-ray diffraction and electron energy loss spectroscopy.**  
Stephen S Kelley, North Carolina State University, United States.
- Preparation of photoluminescence carbon dots from renewable liquid sources by hydrothermal synthesis.**  
Rodrigo Navia, Universidad de La Frontera, Chile.
- Pyrolysis processing of animal manures for producing valued-added biochar and energy**  
Cristina Segura, UDT, Chile.
- KEYNOTE SPEAKER**  
**Carbon-based photocatalysts to produce solar fuels and chemicals from biomass derivative’s molecules.**  
Dr. Juan Matos, UDT, Chile.
- Microwave assisted hydrothermal carbonization: a new option to obtain carbon nanostructures from beet molasses.**  
Luis Romero-Hermoso, Universidad de La Frontera, Chile.
- Carbonization as recycling strategy for carbon and nutrients.**  
Christoph Pfeifer, University of Natural Resources and Life Sciences, Vienna, Austria.
- Carbon aerogel-supported Ni for upgrading biomass-derived vapors: A Py-GC/MS approach**  
Luis Arteaga, Universidad del Bío-Bío, Chile.

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### WEDNESDAY 9<sup>TH</sup>

- 09:00 – 9:45 **PLENARY SESSION**  
**Biobased aromatics – challenges, hurdles and opportunities.**  
Ludo Diels, VITO/UA, Belgium.
- 09:45 – 10:15 Coffee break

#### BIOLOGICAL PROCESSES

- 10:15 – 10:50 **KEYNOTE SPEAKER**  
**Lignocellulosic Biomass and Residues as Potential Substrates for the Industrial Biotechnology.**  
Joachim Venus, Leibniz Institute for Agricultural Engineering and Bioeconomy, Germany.
- 10:50 – 11:10 **From wheat straw to lactic acid: organosolv pretreatment of agriculture waste followed by homolactic fermentation.**  
Pierfrancesco Ricci, Istituto di Chimica del Riconoscimento Molecolare, Italy.
- 11:10 – 11:30 **Organosolv re-use liquor strategy applied to enzymatic saccharification of lignocellulosic biomass.**  
Priscilla Vergara Alarcón, Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria (INIA) - Madrid, Spain.
- 11:30 – 11:50 **Recovery of resources from landfill leachate through the use of an *Opuntia ficus (L.) Mill* polymer.**  
Lorena Jorquera, Pontificia Universidad Católica de Valparaíso, Chile.
- 11:50 – 12:10 **Biohydrogen production from opuntia co-substrates with an alkaline pretreatment.**  
Carlos Lucho Constantino, Universidad Autónoma del Estado de Hidalgo, Mexico.
- 12:10 – 12:30 **Use of wastewater sludge as a potential raw material for the production of biodiesel using microwave technology.**  
María Eugenia González, Universidad de La Frontera, Chile.
- 12:30 – 13:00 Poster award ceremony

#### CHEMICAL PRODUCTS

- KEYNOTE SPEAKER**  
**Exergo-environmental and exergo-economic analyses of a furfuryl alcohol production plant.**  
Teresita Marzioletti, Universidad de Concepción, Chile.
- Pectin optimization extraction from watermelon waste.**  
Carlos de Souza Castro, Instituto Federal de Educação, Ciência e Tecnologia Goiano, Brazil.
- Preliminary evaluation of the use of lees generated in the refining of the vegetable oil mixture as a substrate for the production of biosurfactant.**  
Márcio Costa Pinto da Silva, SENAI CIMATEC, Brazil.
- Production of antioxidant additives from residues with high lignin content.**  
Jesús Arauzo, Universidad de Zaragoza, Spain.