

Program



31 May 2022 Workshop Lignin Analytics

09:30 - 10:30 Coffee/tea & registration

10:30 - 10:45 Welcome and opening (dr. Gijs van Erven – Wageningen Food & Biobased Research/dr. Mirjam Kabel – Wageningen University)

10:45 - 11:40 Lignin synthesis in plants (prof. Wout Boerjan – University of Ghent, Belgium)

11:40 - 12:30 Overview lignin analytics (dr. Mirjam Kabel – Wageningen University)

12:30 - 13:30 Lunch

13:30 - 14:25 Molecular weight determination of lignins (prof. Antje Potthast – BOKU, Austria)

14:25 - 15:20 Lignin quantification & structural fingerprinting by pyrolysis-GC-MS (dr. Gijs van Erven – WUR-FBR)

15:20 - 15:45 Coffee/tea break

15:45 - 16:45 Lignin molecular structure characterization by NMR
(prof. Pieter Bruijninx – Utrecht University, The Netherlands)

16:45 – 18:00 Drinks & registration conference (in WICC)

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01 June 2022 Lignin Conference day 1 morning

08:45 - 09:00 Registration / poster mounting

09:00 - 09:15 Welcome and opening (dr. Richard Gosselink – chair CA17128 LignoCOST)

Chair dr. Richard Gosselink

09:15 - 10:15 **Keynote** - Tailoring lignin biosynthesis to improve biomass deconstruction
(prof. Wout Boerjan – University of Ghent, Belgium)

10:15 – 10.45 Ethanol organosolv lignin fractions: temperature effect on structure, functionality and molecular weight
(dr. Edita Jasiukaitytė-Grojzdek - National Institute of Chemistry, Slovenia)

10:45 - 11:10 Coffee/tea break (poster mounting)

11:10 - 11:35 Improved acetone organosolv process design for the production of higher quality lignins
(MSc. Arjan Smit - TNO, The Netherlands)

11:35 - 12.00 Biopolyol production from black liquor via ultrafast depolymerization in supercritical water
(MSc. Emre Demirkaya - Universidad de Valladolid, Spain)

12:00 - 12:25 Expanding Lignin Thermal Property Space through Fractionation and Covalent Modification
(MSc. Luke Riddell - Utrecht University, The Netherlands)

12:25 - 13:25 Lunch followed by Poster Session

01 June 2022 Lignin Conference day 1 afternoon

Chair prof. Pieter Bruijninx

13:25 - 14:25 **Keynote** - Chemical Lignin Conversion (dr. Peter Deuss – University of Groningen, The Netherlands)

14:25 - 15:00 Mild and tunable pyrolytic lignin ozonolysis in acetic acid
(dr. Martin Palazzolo - University of Groningen, The Netherlands)

15:00 - 15:30 *Coffee/tea break*

15:30 - 15:55 Hydrodeoxygenation of lignin derived phenolic monomers and model bio-oils towards (alkyl)cyclohexane hydrocarbon fuels (prof. Konstantinos Triantafyllidis - Aristotle University of Thessaloniki, Greece)

15:55 - 16:20 Design of a pilot scale lignin depolymerisation plant and downstream separation process
(MSc. Theresa Rücker - SINTEF Industry, Norway)

16:20 - 17:30 **Keynote** – Cleave and couple strategies for sustainable value chains in lignin chemistry: Matching depolymerization with product demand (prof. Katalin Barta – University of Graz, Austria, ONLINE)

17:30 - 19:00 *Poster Session*

19:00 - 22:30 **Dinner WICC (with Willie B & the Blue Sparrow band)**

02 June 2022 Lignin Conference day 2 morning

Chair: dr. Olena Sevastyanova

08:45 - 09:35 **Keynote** – Bacterial enzymes for lignin degradation: enzymatic and microbial conversion of lignin to high-value products (prof. Timothy Bugg - University of Warwick, United Kingdom)

09:35 - 10:00 Assessing the potential of termite gut microbiota for lignin bioconversion
(dr. Guillermina Hernandez-Raquet - INSA, France)

10:00 - 10:25 Lignin derivatization via biocatalysis (prof. Vasile Parvulescu - University of Bucharest, Romania)

10:25 - 11:00 **Coffee/tea break**

11:00 - 12:00 **Keynote** – Challenges and opportunities in biological/ chemical routes from lignin to end-products (dr. Gregg Beckham – NREL, USA)

12:00 - 12:25 Overexpression of the scopoletin biosynthetic pathway enhances lignocellulosic biomass processing
(dr. Lennart Hoengenaert - Ghent University, Belgium)

12:25 - 13:30 **Lunch & Poster Session**

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02 June 2022 Lignin Conference day 2 afternoon

Chair: dr. Karolien Vanbroekhoven

13:30 - 14:20 **Keynote** – Towards application of specific lignin production
(prof. Bert Sels – KU Leuven, Belgium)

14:20 - 15:05 A New Biorefinery Concept with the Focus on Lignin-Carbohydrate Functional Hybrids
(prof. Mikhail Balakshin - Aalto University, Finland)

15:05 - 15:30 Solvent-fractionated alkaline lignins: from analysis and structure-property correlations to functional materials (MSc. Luyao Wang - Åbo Akademi University, Finland)

15:30 - 16:00 Group picture with the participants followed by Coffee/tea break

16:00 - 17:00 **Keynote** - Lignin structure – function relationships with industrial perspectives
(dr. Karolien Vanbroekhoven – Vito, Belgium)

17:00 - 17:25 Correlation between the molecular structure of lignin and the properties of its nanoparticles, using lignin from different processes – MSc. Maria Karlson (KTH, Sweden)

17:30 - 19:00 Poster Session

19:00 - 22:30 Buffet dinner WICC

03 June 2022 Lignin Conference day 3 morning

Chair: prof. Konstantinos Triantafyllidis

08:45 - 09:35 Keynote - LCA of lignin based products (prof. Martin Junginger – Utrecht University, The Netherlands)

09:35 - 10:00 Sustainability of lignin-based products in a defossilised economy

(dr. Heiko Keller - IFEU - Institut für Energie- und Umweltforschung, Germany)

10:00 - 10:25 Utilization of Kraft and Organosolv lignin towards bio-based epoxy polymer composites

(MSc. Christina Pappa - Aristotle University of Thessaloniki, Greece)

10:25 - 10:50 *Coffee/tea break*

10:50 - 11:15 Comparative study of lignin and its fractions as phenol substitutes in phenol-formaldehyde resin formulations for plywood panels (dr. Electra Papadopoulou - Chimar, Greece)

11:15 - 11:40 Lignin chemical modification with cyclic carbonates: from original building blocks to polyurethane foams

(dr. Antoine Duval - Université de Strasbourg, France)

11:40 - 12:30 Keynote - Application of Lignin & Future Perspectives

(dr. Richard Gosselink – Wageningen Food & Biobased Research, The Netherlands)

12:30 - 12:45 **Closing Session + Poster award ceremony** (Scientific Organization)

12:45 - 13:45 *Lunch WICC*