



## **Nordic Wood Biorefinery Conference 2022 – registration now open**

Join us at Nordic Wood Biorefinery Conference (NWBC) to hear the latest discoveries and innovations in bio-based materials, chemicals, and products from wood biorefineries.

NWBC will be held in Helsinki, 25-27 October 2022.

This is the 10th time when the conference is organised. In October we will have a strong focus on low emission biorefineries, side-stream valorization and in addition, interesting presentations on themes such as:

- Circularity of wood sourced carbon and emerging policies
- Novel cellulose modifications
- Structure - function - performance interrelations in materials engineering
- High performing wood-based products for industrial scale
- Wood-based textile solutions

### **This is an event you do not want to miss!**

Our excellent keynote speakers, inspiring panel discussions and high-quality abstracts guarantee that the conference will be extremely interesting.



Jori Ringman, Director General at Cepi  
The Green Deal with Wood Biorefineries



Nordic RTOs collaboration on testbeds and technology infrastructures  
strengthens the impact on European green transition

Karin Johnson, CEO at RISE Processum AB  
Mika Härkönen, Professor of Practice at VTT



FinnCERES Flagship – A Competence  
Centre for the Materials Bioeconomy  
Research Professor Tekla Tammelin, VTT



**Marcus Wallenberg Prize 2022 winner keynote**  
Organic superbase salts (ILs) for cellulose  
dissolution and biomass processing

Professor Ilkka Kilpeläinen, University of Helsinki



Circularity of wood sourced carbon and emerging policies  
Current and Emerging Solutions for Carbon Neutrality in Wood Based  
Biorefinery

Professor Marko Hakovirta, North Carolina State University  
Research Professor Ali Harlin, VTT



Multifunctional and biobased coating aided by digital material design

Professor Monika Österberg, Aalto University



**Marcus Wallenberg Prize 2022 winner keynote**

Novel cellulose fibers from steam-exploded birch wood as the main product in a new biorefinery concept

Professor Herbert Sixta, Aalto University



Panel discussion: Turning research success to commercial success

Juuso Konttinen, Vice President, UPM

Åsa Ek, Acting SVP Head of Innovation, Division Biomaterials, Stora Enso

Niklas von Weymarn, CEO, Metsä Spring Oy

Kristiina Kruus, Dean in the School of Chemical Engineering, Aalto University

Johannes Bogren, Vice President, Södra



**André Noël Chaker** is the 2022 conference moderator.

*"As both a Canadian and a Finn, the forest has played many important roles throughout my life. As a young Summer camp counsellor, I used the forest for educating, physical development and strengthening resilience. Now, as a forest owner, the forest has brought many economic, health and even spiritual benefits to me and my family. When we take good care of our forests, they take good care of us."*

NWBC brings together key operators from the chemical, pulp & paper industries, scientists from the global research community as well as emerging start-ups and SMEs. So, secure your seat and be prepared for an inspiring event!

**Early bird fee is available until August 31st.**

[Read more and save your seat!](#)

# Conference Agenda

Updated on 27<sup>th</sup> of June 2022

## Monday 24/Oct/2022

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- 15.00 - 17.00 Visit to Bioruukki  
Bus transportation from Scandic Park Hotel and back, bus leaves from hotel at 13.30
- 16.00 - 18.00 Pitching training session, PhD Students  
Wonder, Future Hub VTT, Tekniikantie 21, Espoo

## Tuesday 25/Oct/2022

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- 8:30 - 17:30 Registration
- 9:00 - 9:15 **Opening of the conference**  
Dr. Antti Vasara  
President & CEO, VTT
- 9:15 - 9:45 **Keynote, Jori Ringman, Director General at Cepi**  
Cepi is the European association representing the paper industry  
The Green Deal with Wood Biorefineries
- 9:45 - 10:45 **Keynote, Nordic RTOs collaboration on testbeds and technology infrastructures strengthens the impact on European green transition**  
Karin Johnson, CEO at RISE Processum AB  
Mika Härkönen, Professor of Practice, VTT
- Keynote, FinnCERES Flagship  
– A Competence Centre for the Materials Bioeconomy**  
Tekla Tammelin, Research Professor, VTT
- 10:45 - 11:15 **Coffee & poster viewing**
- 11:15 - 12:35 **Engineered lignin products (Part 1)**
- Learnings and Aspects on kraft lignin separation and valorisation  
Mr. Per Tomani, RISE
- LignoForce lignin as a biopolyol in rigid polyurethane foams  
Dr. Michael Paleologou, FPInnovations
- A new biorefinery approach for production of lignin-carbohydrate functional hybrids  
Mikhail Balakshin, Professor of Practice, Aalto
- LigniOx lignins as sustainable bio-based dispersants  
Dr. Jouko Vyörykkä, DOW

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|---------------|---|
| 12:35 - 13:35 | <b>Lunch</b>  |
| 13:35 - 15:15 | <p><b>Low emission biorefineries and side-stream valorization (Part 1)</b><br/> New methods to control the sodium and sulphur balance of kraft pulp mills<br/> Dr. Rickard Wadsborn, Stora Enso<br/> Erik van Zessen, Paques</p> <p>Valorization of industrial spruce bark by alkaline extraction<br/> Dr. Marc Borrega, VTT</p> <p>Preparation, characterization, and application evaluation of different sawdust-based green and versatile chemicals and materials for sawdust valorization<br/> Dr. Jiebing Li, RISE</p> <p>Demonstration and assessment of a Novel Biorefinery Concept for the integration of beechwood-based products as platform and fine chemicals<br/> Mr. Roy Nitzsche, DBFZ</p> <p>LignovaTM – a novel lignin grade from Fibenol biorefinery<br/> Mr. Uku Erik Tropp, Fibenol</p> |
| 15:15 – 16:45 | <b>Coffee &amp; poster session</b>  |
| 16:45 – 17:45 | <b>Pitching</b>   |
| 19:00 - 20:30 | Helsinki City Reception<br>Helsinki City Hall   |

### Wednesday 26/Oct/2022

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| 8.00 - 9.00  | PhD Student Breakfast, Ravintola Töölönrinta  |
| 8:30 - 17:00 | Registration  |
| 9:00 - 9:30  | <p><b>Marcus Wallenberg Prize 2022 winner keynote</b><br/> Organic superbases (ILs) for cellulose dissolution and biomass processing<br/> Professor, Ilkka Kilpeläinen, University of Helsinki</p>  |
| 9:30 - 11:10 | <p><b>Circularity of wood sourced carbon and emerging policies</b><br/> Current and Emerging Solutions for Carbon Neutrality in Wood Based Biorefinery<br/> Professor, Marko Hakovirta, North Carolina State University<br/> Research Professor, Ali Harlin, VTT</p> <p><b>Novel cellulose modifications</b><br/> Preparation of Dialdehyde cellulose (DAC) from cellulose pulp and its applications as reversible wet strength additive<br/> Mr. Gerrit Schaper, Papiertechnische Stiftung (PTS)</p> |



Nanocellulose-based antimicrobial microparticles as an alternative to toxic nano-biocides  
Professor, Dr. Vanja Kokol, University of Maribor

Efficient new extraction method for highly charged phosphorylated CNC  
Mr. Marcel Kröger, Aalto

Progress on cellulose esterification – control over surface to bulk modification  
Dr. Alistair King, VTT

11:10 - 11:40

**Coffee & poster viewing**

11:40 - 13:00

**Structure – function – performance interrelations in materials engineering**

Multifunctional and biobased coating aided by digital material design  
Invited speaker, Professor Monika Österberg, Aalto

Simulating the impact of nozzle hole locations and diameters on film thickness in spinning process  
Dr. Kaarlo Nieminen, Aalto

Capturing colloidal nano- and microplastics with plant-based nanocellulose networks  
Ms. Ilona Leppänen, VTT

High performance cellulose-based substrates for flexible printed electronics  
Dr. Vinay Kumar, VTT

13:00 - 14:00

**Lunch**

14:00 – 14:30

Panel discussion  
The challenges and opportunities of Lignin  
Participants will be announced soon

14:30 - 15:50

**Low emission biorefineries and side-stream valorization (Part 2)**

Improvement of recovery yields and quality of Crude Sulfate Turpentine  
Dr. Emmanuel Cazeils, Firmenich  
Mr. Thomas Fant, Metsä Fibre

Size based monitoring of cellulose hydrolysis reaction for the cellulose nanocrystal (CNC) production  
Dr. Shubhankar Bhattacharyya, RISE Processum AB

LigniOx process concept to produce lignin dispersants at a kraft pulp mill and an organosolv biorefinery  
Dr. Anna Kalliola, VTT

**High performing wood-based products for industrial scale**

Scalable industrial process for the production of nanofibrillated cellulose oxalate  
Dr. Jonatan Henschen, Finecell Sweden AB

- 15:50 - 16:30 **Coffee & poster viewing**
- 16:30 - 17:30 The kinetics of lignin extraction in oxygen delignification  
Ms. Jenny Sjöström, KTH
- Techno-economic analysis for novel biorefinery concept producing biobased acetic anhydride  
Dr. Kristian Melin, LUT
- Catalysis solvolysis of novel organosolv lignin into phenolic monomers  
Dr. Saravanan Kasipandi, VTT
- 19:00 - 23:00 **Conference Dinner & The Gullichsen Award**  
Restaurant Pörssi

### Thursday 27/Oct/2022

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- 8:00 - 16:00 Registration
- 9:00 - 9:30 **Marcus Wallenberg Prize 2022 winner keynote**  
Novel cellulose fibers from steam-exploded birch wood as the main product in a new biorefinery concept  
Professor, Herbert Sixta, Aalto
- 9:30 - 10:30 **Turning research success to commercial success**  
Juuso Konttinen, Vice President, UPM  
Åsa Ek, Acting SVP Head of Innovation, Division Biomaterials, Stora Enso  
Niklas von Weymarn, CEO, Metsä Spring Oy  
Kristiina Kruus, Dean in the School of Chemical Engineering, Aalto University  
Johannes Bogren, Vice President, Södra
- 10:30 – 11:00 **Coffee & poster viewing**
- 11:00 – 11:20 Lignin-based functional fillers - a disruptive innovation  
Invited speaker, Dr.-Ing. Tobias Wittmann, SunCoal Industries GmbH
- 11:20 – 12:40 **Wood based textile solutions**
- Sustainable textile business – industry perspective  
TBD
- Spinning of regenerated fibres from paper grade pulp  
Dr. Taina Kamppuri, VTT
- Spinning and additive manufacture for multiscale cellulose structures on textiles and 3D printed materials  
Dr. Guillermo Reyes, Aalto

Sustainable chemistries to tailor cellulosic fibres for textiles  
Dr. Anna-Stiina Jääskeläinen, Kemira

12:40 - 13:40

**Lunch**

13:40 - 15:00

**Engineered lignin products**

Unlocking the potential of lignin in material applications via its simultaneous isolation and multi-functionalization

Ms. Stefania Bertella, Ecole Polytechnique Federale de Lausanne (EPFL)

Lignin based polyacids to substitute fossil-based materials in coatings formulations

Dr. Olesya Fearon, VTT

Sustainable lignin polymer in thermoformed fiber products

Dr. Mihaela Tanase-Opedal, RISE PFI

Product development and scale-up of the lignin platform in an aldehyde-assisted fractionation (AAF) biorefinery

Dr. Monique Bernardes Figueiredo

Bloom Biorenewables

15:00 - 15:30

**Coffee**

15:30 - 16:30

LignoCity – flexible production of tailor-made lignin

Ms. Maria Ölmhult, RISE

Lignin nanoparticles-based antibacterial coatings for development of antimicrobial surfaces

Dr. Maria Morits, Aalto

Upgrading biorefinery lignins through green and cost-efficient reactive extraction

Dr. Davide Rigo, Aalto

16:30 - 16:45

**Closing the conference and announcing the next NWBC**



NWBC is organized in cooperation between VTT (Finland) and RISE (Sweden).



See you in Helsinki!



**Atte Virtanen**  
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**Katariina Torvinen**  
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