



**Program, 9th Nordic Wood Biorefinery Conference
(NWBC 2020), Stockholm, Sweden, October 13-15, 2020**

Conference venue: Courtyard Stockholm Kungsholmen

Address: Rålambshovsleden 50, Stockholm

Changes might have to be made in the program.

Tuesday October 13

Session 1 Opening		
9.00-9.10	Welcome	Per Tomani, RISE, Sweden
9.10-9.40	The largest Nordic research institutes concentrate efforts in bioeconomy	Marco Lucisano, RISE, Sweden; Jussi Manninen, VTT, Finland
9.40-10.05	New business and bioeconomy, the why, what and how	Lauri Lehtonen, Stora Enso, Finland
10.05-10.30	Paboco - changing the bottle industry for good	Gittan Schiöld, Paper Bottle Co., Denmark
<i>10.30-10.55</i>	<i>Coffee break</i>	
10.55-11.20	BASF's biobased approach	René Backes, BASF, Sweden
11.20-11.45	LignoCOST - Pan-European Network on the Sustainable Valorisation of Lignin	Richard Gosselink, University of Wageningen, Netherlands
11.45-12.10	Concretizing the bioproduct value proposal through open innovation	Virginie Chambost, EnVertis Consulting; Paul Stuart, Polytechnique-Montréal, Canada
<i>12.10-13.10</i>	<i>Lunch</i>	
Session 2 Biorefinery concepts		
13.10-13.35	Fortum biorefinery concept	Heli Antila, Hanne Wikberg, Matti Sonck, Pasi Hagelberg, Heli Virkki, Risto Sormunen, Fortum, Finland
13.35-14.00	The value of stabilised lignin and C5 sugars	Remy Buser, Florent Héroguel, Jean Behaghel de Bueren, Jeremy Luterbacher, Bloom Biorenewables, Switzerland
14.00-14.25	Wood feedstock for the production of bio-based polymers	Lari Vähäsalo, Sebastian von Schoultz, Nicholas Lax, CH-Bioforce, Finland
<i>14.25-14.50</i>	<i>Coffee break</i>	

14.50-15.15	Second life of wood: BioFlex technology for converting waste wood into clean cellulose and lignin using low-cost ionic liquids	Agi Brandt-Talbot, Lixea, UK
15.15-15.40	Environmental services by a multipurpose biorefinery	Sudhanshu Pawar, Erika Lönntoft, Lina Lindahl, Karin Willquist, RISE; Maria Sandberg, Karlstad University; Alan Werker, Simon Bengtsson, Promiko; Markus Langeland, Swedish University of Agricultural Sciences; Ed van Niel, Lund University, Sweden
15.40-16.05	Toward carbon negative pulp and paper industry	Ali Harlin, Antti Arasto, VTT, Finland
16.05-16.30	R&D 4.0 for forest biorefinery	Eemeli Hytönen, Jussi Manninen, VTT, Finland

18:00 Conference dinner. Place TBA

Preregistration needed.

Wednesday October 14

N.B: Parallell sessions before lunch:

- Room “Courtyard 6+7”: **Biorefineries in a circular economy**
- Room “Kungsholmen”: **Nordic Wood Biorefinery Conference**

Room “Courtyard 6+7” Biorefineries in a circular economy		
8.30-9.00	IEA Bioenergy Task 42 - Biorefineries in the Nordic context	Johanna Mossberg, RISE, Sweden
9.00-9.30	Biobased Chemicals: Current status and future outlooks	Ed de Jong, Avantium, Netherlands; Heinz Stichnothe, Johann Heinrich von Thünen Institute, Germany; Geoff Bell, Microbiogen, Australia; Henning Jorgensen, University of Copenhagen, Denmark
9.30-10.00	Alternative and sustainable carbon sources as substitutes for metallurgical coal	Geoff Bell, Microbiogen, Australia
10.00-10.30	<i>Coffee break</i>	
10.30-11.00	TEE assessment of integrated biorefineries	Franziska Hesser, Wood K plus; Johannes Lindorfer, Energieinstitut an der Johannes Kepler Universität; Michael Mandl, tbw research; Austria
11.00-11.30	IEA Task 34 on Direct Thermochemical Liquefaction – Scope of Work and Upcoming Reports	Linda Sandström, RISE, Sweden
11.30-12.00	Industry-based biorefineries: Path forward forevaluating bioeconomy transformation strategies	Paul Stuart, Ecole Polytechnique de Montreal; Marzouk Benali, CanmetENERGY, Canada
12.00-13.10	<i>Lunch</i>	

Room Kungsholmen:

Session 3 Cellulose and hemicellulose		
8.30-8.55	Nanocellulose coatings in biological interfaces	Ruut Kummala, Diosángeles Soto Véliz, Wenyang Xu, Chunlin Xu, Martti Toivakka, Åbo Akademi University, Finland; Tiffany Abitbol, RISE, Sweden
8.55-9.20	Ductile cellulose nanopaper with high strength and ultrahigh toughness	Feng Chen, Wenchao Xiang, Daisuke Sawada, Michael Hummel, Herbert Sixta, Aalto University, Finland; Tatiana Budtova, MINES ParisTech, PSL Research University, France
9.20-9.45	Valorizing a biorefinery side stream for paper and board applications	Brita Peltokoski, Anna-Stiina Jääskeläinen, Veli-Matti Vuorenvalo, Jaakko Hiltunen, Chunlin Xu, Kemira, Finland; Petri Oinonen, Oskar Schmidt, Ecohelix, Sweden
9.45-10.05	Valorisation of sawdust to improve resource efficiency in mechanical forest industry	Mari Kallioinen, Jussi Lahti, Timo Vornamo, Anastasia Gafiullina, Ossi Martikka, Timo Kärki, Mika Mänttari, Lappeenranta-Lahti University of Technology, Finland
10.05-10.30	<i>Coffee break</i>	
Session 4 Bark		
10.30-10.55	Pilot-scale extraction of condensed tannins from spruce bark for the production of biopolymers for waste water treatment	Hanna Brännström, Eelis Halmemies, Petri Kilpeläinen, Jarkko Hellström, Paula Jylhä, Natural Resources Institute (Luke), Nea Lintula, UPM-Kymmene, Finland; Mehrdad Arshadi, Torgny Mossing, Swedish University of Agricultural Sciences (SLU)
10.55-11.20	Softwood tannin biorefinery	Christiane Laine, Jenni Rahikainen, Anna Borisova, Juha Heikkinen, Hanna Kyllönen, Marjut Suomalainen, Adina Anghelescu-Hakala, Veikko Halkosaari, VTT; Petri Kilpeläinen, Pekka Saranpää, Natural Resources Institute (Luke); Markku Kuosa, Lappeenranta-Lahti University of Technology; Tapio Tirri, South-Eastern Finland University of Applied Sciences, Finland

Session 5 Lignin		
11.20-11.45	Toward structural models of native and technical lignins	Mikhail Balakshin, Aalto University, Finland; Ewellyn A. Capanema, RISE, Sweden; Antje Potthast, Thomas Rosenau; BOKU, Austria,
11.45-12.10	Lignin production upgraded – industry-specific qualities to broaden the commercial potential	Henrik Wallmo, Hanna Karlsson, Anders Littorin, Valmet, Sweden
<i>12.10-13.10</i>	<i>Lunch</i>	
13.10-13.35	Integrated Bioproduct Platforms in the Canadian Forest Sector	Kurt Woytiuk, Enrique Mateos-Espejel, Tatiana Rafione, Michael Paleologou, FPInnovations, Canada
13.35-14.00	Potential of Lignin-Based Thermoplastics	Cédric Diffo Tégua, Paul R Stuart, Polytechnique-Montréal; Nima Ghavidel Mehrn, CanmetENERGY, Canada; Pauline D'Hollander, KU Leuven, Belgium; Wolfgang Glasser, Virginia Polytechnic Institute, USA
14.00-14.25	Concrete Dispersants Based on Modified Kraft Lignins. A Polymer Producer's Perspective	Francis Loiseau, Iordana Triantafillu, Louis-André Chassé, Mario Dupuis, Ruetgers Polymers, Canada
Poster session		
14.25-14.55	Short presentations from the finalists in the Troëdsson Paper Engineering Travel Grant and Johan Gullichsen Award competitions	
<i>14.55-15.40</i>	<i>Poster session and Coffee break</i>	
Session 5 cont. Lignin		
15.40-16.05	From Kraft lignin to mobile energy storage	Philipp Schlee, Maria-Magdalena Titirici, Imperial College London, UK; Omid Hosseinaei, Per Tomani, RISE, Sweden
16.05 -16.30	Carbon fibres from dry-jet wet spun lignin-cellulose precursors	Andreas Bengtsson, Maria Sedin, Elisabeth Sjöholm, RISE, Sweden

19:00 (sharp!) Buffet reception at the beautiful Stockholm City Hall – venue for the Nobel Prize dinner – hosted by the City of Stockholm.

Address: Hantverkargatan 1. Preregistration needed.

Thursday October 15

Session 6 Fuels and chemicals		
8.30-8.55	Conversion of lignocellulosic feedstocks to transport fuels	Martin Hedberg, Johanna Mossberg, Erik Furusjö, David Blomberg Saitton, Linda Sandström, Tomasz Janosik, RISE, Sweden
8.55-9.20	Towards enhancing the versatility of the lignin biorefinery – Insights into batch and continuous mode depolymerisation processes	Omar Abdelaziz, Christian Hulteberg, Lund University, Sweden
9.20-9.45	Award ceremony for Troëdsson Paper Engineering Travel Grant and Johan Gullichsen Award	
<i>9.45-10.10</i>	<i>Coffee Break</i>	
10.10-11.35	Drop-in fuels from black liquor – combining increased pulp capacity with production of sustainable biofuels	Erik Furusjö, Sennai Mesfun, Johanna Mossberg, RISE; Yawer Jafri, Fredrik Granberg, Elisabeth Wetterlund, Luleå University of Technology; Henrik Rådberg, Preem; Christian Hulteberg, SunCarbon; Klaas van der Vlist, Smurfit Kappa; Roland Mårtensson, Södra, Sweden
Session 7 Thermochemical conversion		
11.35-12.00	Towards a pyrolysis biorefinery: Valorization strategies for the pyrolytic lignin fraction	Monique Bernardes Figueirêdo, P.J. Deuss, R.H. Venderbosch, H.J. Heeres, University of Groningen, Netherlands
<i>12.00-13.00</i>	<i>Lunch</i>	
13.00-13.25	Green and cost efficient hydrothermal treatment (HTT) biorefinery to produce highvalue lignins	Tainise V. Lourencon, Luiz G. Greca, Dmitry Tarasov, Orlando J. Rojas, Mikhail Balakshin, Aalto University; Marc Borrega, Tarja Tamminen, VTT, Finland
13.25-13.50	Integration of acid streams from biomass carbonization into bio-carbon ash reduction	Travis Robinson, Keith Ludlow, Guy Tourigney, Fernando Preto, Natural Resources Canada, CanmetENERGY-Ottawa
13.50-14.15	HTC Biocoal from sludge – A new pulp mill product	Peter Axegård, C-Green Technology, Sweden
14.15-14.40	Initiatives for biocarbon production in Norway	Kai Toven, RISE PFI, Norway

Session 8 Closing		
14.40-14.50	Summing up	Per Tomani, RISE, Sweden
14.50-14.55	Announcement of NWBC 2021	Eemeli Hytönen, VTT, Finland
14.55-15.30	<i>Coffee</i>	

Friday October 16

Tour to LignoCity with the LignoBoost Demo Plant (whole-day trip)

07.15 Bus from the conference hotel (Marriott Courtyard, Rålambshovsleden 50, Stockholm). Preregistration needed.

Poster program NWBC 2020

No	Title	Authors
1	Towards enhancing the versatility of the lignin biorefinery – Insights into batch and continuous mode depolymerisation processes	Omar Abdelaziz, Christian Hulteberg
2	Liquefaction of industrial lignins and liquors to produce green aromatic chemicals	Bartolomei E., Bertaud F., Ottenio P., Hernandez A., Djakovitch L., Vilcoq L., Fongarland P., Buendia F., Le Brech Y., Durand, A., Laine, R., Arnoux, P., Fabre O., Mauviel G., Dufour A.
3	Technical lignin conversion via TEMPO mediated oxidation	Erika Bartolomei*, Evan Terrell, Antonio Hernandez, Laurent Djakovitch, Manuel Garcia-Perez, Yann Le Brech, Anthony Dufour
4	Ductile cellulose nanopaper with high strength and ultrahigh toughness	Feng Chen, Wenchao Xiang, Daisuke Sawada, Michael Hummel, Herbert Sixta, Tatiana Budtova
5	New pathway for producing fine wood powders	Atanu Kumar Das, David A. Agar, Dinesh Fernando, Boris Vujadinovic, Per Nordin, Sylvia H. Larsson, Magnus Rudolfsson
6	Towards a pyrolysis biorefinery: Valorization strategies for the pyrolytic lignin fraction	Monique B. Figueirêdo, P.J. Deuss, R.H. Venderbosch, H.J. Heeres
7	Mild catalytic softwood biomass fractionation: towards complete biomass valorization	Maxim V. Galkin, Alessandra De Santi, Ciaran W. Lahive, Peter J. Deuss, Katalin Barta
8	Gamma-valerolactone stability under pulping conditions as basis for process optimization and chemical recovery	Marianna Granatier, Quang Lê Huy, Herbert Sixta
9	Bioenergy and Internet of Renewable Energy (IoRE) for Sustainable Smart City	Famous O. Igbinovia
10	Nanocellulose coatings in biological interfaces	Ruut Kummala*, Diosángeles Soto Véliz*, Tiffany Abitbol**, Wenyang Xu, Chunlin Xu, Martti Toivakka
11	Valorizing a biorefinery side stream for paper and board applications	Brita Peltokoski, Anna-Stiina Jääskeläinen, Veli-Matti Vuorenpallo, Jaakko Hiltunen, Chunlin Xu, Petri Oinonen, Oskar Schmidt
12	Working with Nature - The Potential of Fibre Networking in Efficient Length-Based Fibre Fractionation	Jakob D. Redlinger-Pohn, Stefan Radl
13	Production of HMF and furfural from sugars over heterogeneous carbon supported catalysts	Annu Rusanen, Riikka Kupila, Katja Lappalainen, Johanna Kärkkäinen, Ulla Lassi
14	A comparison between a BAT pulp mill of 1990 with a corresponding pulp mill of 2040	Caroline Wilke

15	Adding value to softwood bark via alkaline pulping	Tarja Tamminen, Anna Kalliola, Panu Lahtinen, Marjo Määttänen, Matti Siika-aho, Stina Grönqvist, Klaus Niemelä
16	NIR and NMR measurements on black liquor - towards on-line measurements	Jerk Rönnols, Lars Wallbäcks, Lars-Erik Åkerlund, Per Törngren, Anna Jacobs
17	The synergetic effect of sodium chloride at alkali activation for producing porous carbon using lignin	Nikolai Ponomarev, Mika Sillanpää
18	Sequential Catalytic Modification of the Lignin α -Ethoxylated β -O-4 Motif to Facilitate C-O Bond Cleavage by Ruthenium-Xantphos Catalyzed Hydrogen Transfer	Zhenlei Zhang, Ciaran W. Lahive, Douwe S. Zijlstra, Zhiwen Wang, Peter J. Deuss
19	Gamma-valerolactone stability under pulping conditions as basis for process optimization and chemical recovery	Marianna Granatier, Quang Lê Huy, Herbert Sixta
20	The recovery of DES by Nanofiltration using organic solvents	Yagnaseni Roy, Remco Top, Weibe M. de Vos, Boelo Schuur
21	Recent progress in mechano-enzymatic fibre modification for improved fibre reactivity	Jenni Rahikainen, Thaddeus Maloney, Outi Mattila, Ville Lovikka, Sara Ceccherini, Matthieu Molinier, Ulla Holopainen-Mantila, Mehedi Reza, Tapani Vuorinen, Kristiina Kruus, Anna Suurnäkki, Stina Grönqvist
22	Optimization of pine and spruce bark hot water extractions	Petri Kilpeläinen, Eero Liski, Pekka Saranpää
23	Nanocellulose from Norway Spruce Bark	Barbara Rietzler, Monica Ek
24	Mild catalytic softwood biomass fractionation: towards complete biomass valorization	Maxim V. Galkin, Alessandra De Santi, Ciaran W. Lahive, Peter J. Deuss, Katalin Barta,
25	preparation and characterization of polypropylene/ maleated polypropylene/ cellulose: The effect of cellulose oxalate as cellulosic reinforcement in ternary composites	Tianxiao Huang, Isabella Kwan, Kloce Dongfang Li, Monica Ek
26	Complete utilisation of biomass in alkaline oxidation (AlkOx) biorefinery	Hanna Hörhammer, Matti Siika-aho, Jari Sirviö
27	Bio-carbon from creosote-treated wood	Travis Robinson, Keith Ludlow, Guy Tourigney, Fernando Preto
28	Sulfur-free lignin as a binder for pet food	Sabrina Burkhardt
29	Study of C4 dicarboxylic acids production by wet peroxide oxidation using lignin model compounds	Carlos A. Vega-Aguilar, Maria Filomena Barreiro, Alírio E. Rodrigues
30	Investigation of the effect on lignin by different sample pre-treatments using SFE and UHPSFC/HRMS	Federica Nardella

31	Difference in the Lignin fractions Isolated from Wheat Straw Using Two Different Deep Eutectic Solvents (DESs)	Xin Yue, Terhi Suopajärvi, Henrikki Liimatainen
32	Fungal oxidases as tools in upgrading the phenolic monomers obtained from lignins	Romana Příhodová, Ludmila Martinkova
33	Hydrophobic Interaction Chromatography as a Candidate for 2D LC of Lignosulfonates	Oliver Musl, A. Kai Mahler, Gerhild Wurzer, Thomas Rosenau, Antje Potthast
34	Sustainable valorization of wine industry subproducts by sub/supercritical water fractionation	Tijana Adamovic, Maria Jose Cocero Alonso
35	Use of deep eutectic solvent in lignocellulosic pre-treatment and cellulose-based products	Carlos Arce, Tamara Llano, Sara González-López, Edmond Maican, Mariana Ferdes, Alberto Coz
36	Structural carbon fibres from lignin	Anders Uhlin
37	Bio-based aromatic polymers from (depolymerized) lignin	Pablo Ortiz, Richard Vendamme, Karolien VanBroekhoven
38	Cost drivers for biomass conversion technologies for production of liquid transportation fuels	Paraskevi Karka, Stavros Papadokonstantakis, Filip Johnsson, Henrik Thunman
39	From wood to wood: lignin bio-oil as bio-based source for different type of wood treatment agents	Vladimirs Biziks
40	Cellulosic ultrafiltration membranes from wood	Anastasiia Lopatina, Ikenna Anugwom, Mohammadamin Esmaeili, Mika Mänttari, Mari Kallioinen,
41	Nanocellulose modification to enhance the performance of regenerated cellulose membrane	Ikenna Anugwom, Chike Obi, Mika Mänttari, Mari Kallioinen
42	Integrated furfural production and lignin recovery from pulp mill prehydrolysate	Adil Mazar, Olumoye Ajao, Marzouk Benali, Jawad Jaaidi, Naceur Jemaa, Waleed Wafa Al Dajani, Michael Paleologou
43	Effects of chemical additives on the properties of hydrolysis lignins and on their performance in the preparation of lignin/PLA biocomposites	Marc Borrega, Ville Pihlajaniemi, Heidi Peltola, Lisa Wikström, Tiina Liitiä, Tarja Tamminen,
44	Biofuels and biomolecules from wood black liquor in a cellulose based biorefinery	Hélène Curmi, Bruno Lacaze, Christine Chirat, Geert Haarlemmer, Dominique Lachenal
45	Novel one step oxidative organosolv pretreatment of wood residues for high added value chemicals and food additives	Kalogiannis K., Michailof M., Lappas A., Karnaouri A., Chalima A., Georgia Asimakopoulou, Anastasia Zerva Topakas E.
46	Evaluation of organosolv pre-treatment of Norway spruce on thermal and chemical properties of lignin	Mihaela Tanase-Opedal, Gary Chinga Carrasco and Øyvind Eriksen, RISE PFI

47	evaluation of H-factor on the delignification of norway spruce by organosolv pretreatment process	Prajin Joseph, Størker Moe, Mihaela Tanase Opedal
48	The effect of crowding number on the performance of hydrodynamic fiber fractionation	Thomas Schmid, Stefan Radl
49	Computational simulation of an integrated hydrothermal liquefaction, gasification and Fischer-Tropsch synthesis process	Christian Stigsson, Erik Furusjö, Ola Wallberg
50	Investigation of intermolecular interactions in membrane separation processes of sulfite spent liquor to increase process efficiency	Klaus Schlackl, Lukas Almhofer, Robert H. Bischof, Wolfgang Samhaber
51	The Sunfite™ biorefinery concept. The response of bagasse in ammonium sulfite pretreatment	Leif Engelthon, Helena Håkansson, Ulf Germgård, Petri Kilpeläinen, Juha Fiskari

