EPNOE Sundsvall

2025 Sweden

9th EPNOE International Polysaccharide Conference Sundsvall, Sweden

August 25–28, 2025

Mittuniversitetet

MID SWEDEN UNIVERSITY

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Welcome to EPNOE 2025

It is a great pleasure to welcome you to the 9th EPNOE International Polysaccharide Conference, hosted by Mid Sweden University in Sundsvall, Sweden.

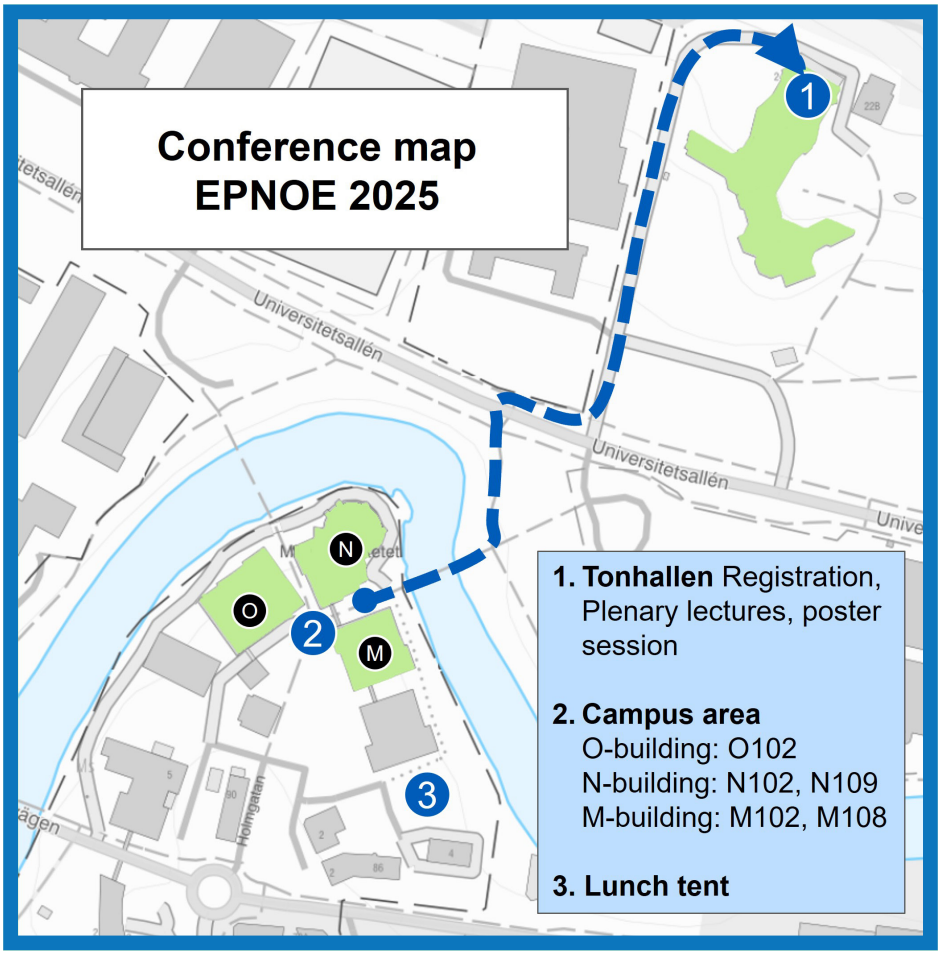
As one of the major events in the field, the EPNOE Conference brings together researchers and industry professionals to explore the latest advances in polysaccharide science and sustainable materials.

This year's programme offers keynote talks, presentations, and networking opportunities that promote meaningful exchange between academia and industry. New for 2025 is the Bioeconomy Innovation Track – a dedicated forum highlighting applied research, business collaboration, and real-world impact.

We are excited to host you in Sundsvall - a city shaped by forest and innovation.

Welcome to Sundsvall!

Magnus Norgren
Chair of the EPNOE 2025 Organizing Committee


Conference map
EPNOE 2025
Universitetsallén
Universitetsallén
Holmgatan
1
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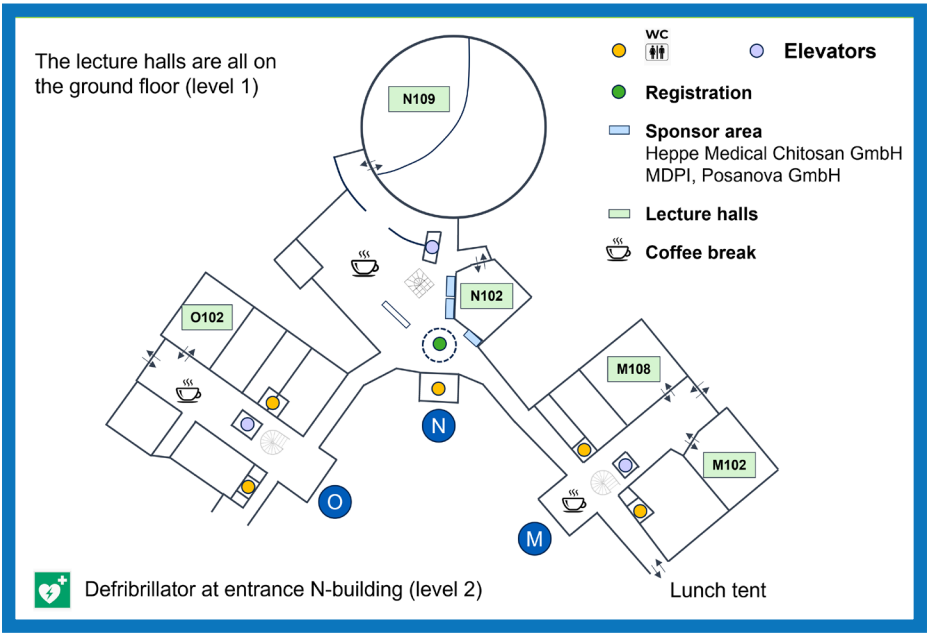
M
1. **Tonhallen** Registration, Plenary lectures, poster session
2. **Campus area**
O-building: O102
N-building: N102, N109
M-building: M102, M108
3. **Lunch tent**


The lecture halls are all on the ground floor (level 1)
WC
Elevators
Registration
Sponsor area
Heppe Medical Chitosan GmbH
MDPI, Posanova GmbH
Lecture halls
Coffee break
N109
N102
O102
M108
M102
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Defribrillator at entrance N-building (level 2)
Lunch tent

General information

The conference takes place at Mid Sweden University's campus in Sundsvall. Larger gatherings will be held at the nearby concert hall Tonhallen, located close to the university campus.

Tonhallen, visiting address Universitetsallén 24
Mid Sweden University, visiting address Holmgatan 10

Conference locations at the university:

N109 (Fälldinsalen)
N102
M108 (Lubbesalen)
M102
O102 (SCA-salen)

Social events
Welcome reception at Hotel Clarion, Skepparegatan 9.
Gala dinner at Sundsvall City Hall, Kyrkogatan 19.

WiFi
At Campus:

- WiFi: EPNOE-2025
- Password: welcome-to-MIUN

At Tonhallen:

- WiFi: Sundsvall WiFi
- Password: Not required

Learn more about EPNOE 2025: **epnoe2025.org**

Program

MONDAY 25 AUGUST 2025

08:30–10:00 **Registration**, *Tonhallen*

10:00–10:40 **Opening Cermony**, *Tonhallen*

10:40–11:20 **Honorary Lecture. Plenary lecture 1**, Colloids – new challenges in a historical perspective
Björn Lindman, Lund University

11:20–11:40 **Short break**

11:40–12:20 **Plenary lecture 2**, POLYSACCHARIDE-BASED MATERIALS: KEY PLAYERS IN BUILDING A SUSTAINABLE TOMORROW
Elisabete Frollini, University of São Paulo

12:40–14:00 **Lunch break**

14:00–14:30 ***Chair: Orlando Rojas***
Keynote 1, *N109* (Fälldinsalen)
CELLULOSIC PLANT FIBERS FOR SEMI-STRUCTURAL AND ECO-FRIENDLY BIOCOMPOSITES
Lars Berglund

14:00–14:30 ***Chair:* Anna Ström**
Keynote 2, *N102*
STRATEGIES TO INCREASE PREBIOTIC ACTIVITY AND PSYCHOBIOTIC POTENTIAL THROUGH DIETARY FIBRE MODULATION
Elisabete Coelho

14:00–14:30 ***Chair: Daniel Wefers***
Keynote 3, *M108* (Lubbesalen)
Thermal Degradation of Cellulose Nanomaterials
Francesco D'Acierno

14:00–14:30 ***Chair: Anna Roig***
Keynote 4, *M102*
DIALDEHYDE POLYSACCHARIDE-POLYPYRROLE COPOLYMERS: GREEN SYNTHESIS AND PROMISING BIOMEDICAL PROPERTIES
Jan Vícha

14:00–14:30 *Chair:* **Marc** *Delgado Aguilar*
Keynote 5, *O102* (SCA-salen)
DESIGNING CHIRAL TEMPLATES WITH CELLULOSE NANOCRYSTAL ALLOMORPHS AND POLYMER END-TETHERING
Justin Zoppe

14:30–15:30 ***Chair: Orlando Rojas***
Parallel session 1, *N109* (Fälldinsalen)

14:30–14:50 TOWARDS SUSTAINABLE PLANT FIBRES FOR THERMOPLASTIC BIOCOMPOSITES: SELECTION AND FRACTIONATION AS KEYS
Nicolas Le Moigne

14:50–15:10 THE NEXT GENERATION OF HIGH-PERFORMANCE FIBERS BASED ON CELLULOSE DERIVATIVES AND WET-SPINNING
Manon Guivier

15:10–15:30 PREPARATION OF CARBAMATE-MODIFIED CELLULOSE NANOFIBER/ POLYOLEFIN COMPOSITE MATERIAL
Keita Sakakibara

14:30–15:30 ***Chair: Anna Ström***
Parallel session 2, *N102*

14:30–14:50 Study of the prebiotic properties of wood hemicelluloses oligosaccharides
Niusha Safari

14:50–15:10 IMPACT OF DIETARY FIBRES ON THE GASTROINTESTINAL DIGESTION MECHANISM OF FOOD PROTEINS
Laura Díaz-Piñero

15:10–15:30 A Stable Isotope Dilution Approach for Quantification of Total Uronic Acids in Dietary Fiber by LC-MS
Johanna Braun

14:30–15:30 ***Chair: Daniel Wefers***
Parallel session 3, *M108* (Lubbesalen)

14:30–14:50 ELECTRON PARAMAGNETIC RESONANCE METHODS TO STUDY CONFORMATIONAL DISTRIBUTIONS AND INTERACTIONS OF POLYSACCHARIDE DIETARY FIBERS
Maxim Yulikov

14:50–15:10 MRI METHODOLOGIES TO FOLLOW FLUID INGRESS IN PULP-BASED PACKAGING MATERIALS
Diana Bernin

15:10–15:30 Absorption of liquid water in paper and wood observed by in-situ X-ray scattering
Paavo Penttilä

14:30–15:10 ***Chair: Anna Roig***
Parallel session 4, *M102*

14:30–14:50 BACTERIAL CELLULOSE AS SUBSTRATE FOR PHOTONIC DEVICES AND WEARABLE SENSORS
Anna Roig

14:50–15:10 BACTERIAL CELLULOSE-FUCOPOL COMPOSITE HYDROGEL DRESSINGS FOR ADVANCED WOUND TREATMENT
Asiyah Esmail

14:30–15:30 ***Chair: Marc Delgado Aguilar***
Parallel session 5, *O102* (SCA-salen)

14:30–14:50 DIGITALIZING SEPARATION SCIENCE BY ELECTRONICALLY TUNABLE CELLULOSE-BASED MEMBRANES
Tobias Benselfelt

14:50–15:10 STRONG OR WEAK: WHO TAILORS THE MICROSTRUCTURAL PROPERTIES OF CELLULOSE AEROGEL BEADS?
Kathirvel Ganesan

15:10–15:30 Insights into the Colloidal Deacetylation of Chitin Nanocrystals
Tony Jin

15:30–16:00 **Coffee break – Campus**

16:00–17:40 ***Chair: Orlando Rojas***
Paralell session 6, *N109* (Fälldinsalen)

16:00–16:20 FROM MICROBIAL POLYMERS TO MATERIAL INNOVATION: CHARACTERIZING EXTRACELLULAR POLYMERIC SUBSTANCES IN LIVING BUILDING MATERIALS
Julia Hale

16:20–16:40 Bioactive cellulose foams made from laccase mediated polydopamine and ferulic acid grafting
Abirami Senthil

16:40–17:00 SUSTAINABLE TECHNOLOGY FOR FABRICATION OF HYDROPHOBIC CELLULOSE FOAM
Rana Alimohammadzadeh

17:00–17:20 BIODESIGN OF PHOTOSYNTHETIC BIOHYBRIDS THROUGH NANOCELLULOSE WATER INTERACTIONS
Valentina Guccini

17:20–17:40 'Food-compatible' Deep Eutectic Solvents for Enhanced Sugarcane Trash Fractionation and Valorisation
Yujie Mao

16:00–17:20 ***Chair: Anna Ström***
Paralell session 7, *N102*

16:00–16:20 THE ANTIOXIDANT ACTIVITY OF POLYSACCHARIDES - FACTS AND MITHS
Manuel A. Coimbra

16:20–16:40 Engineering of Arabinoxylan Fibres Towards Prebiotic Hydrogels Using Hydrolases and Oxidative Enzymes
Carl Rämgård

16:40–17:00 NANOSTRUCTURAL MODIFICATIONS OF BACTERIAL CELLULOSE INDUCED BY ALGAL POLYSACCHARIDES
Patricia Lopez-Sanchez

17:00–17:20 Influence of pH-shift-based protein extraction on the properties of ulvan produced from Ulva fenestrata with a biorefinery approach
Gabriele Beltrame

16:00–17:40 ***Chair: Daniel Wefers***
Paralell session 8, *M108* (Lubbesalen)

16:00–16:20 Chemical Heterogeneity of Polysaccharides: Chromatographic Characterization
Yefim Brun

16:20–16:40 TAILORED RECOVERY OF MICROFIBRILLATED CELLULOSE BASED ON PLANT LIGNOCELLULOSE ANATOMY - A CASE STUDY WITH LUPINUS ANGUSTIFOLIUS
Ulrica Edlund

16:40–17:00 Development of a HPAEC-PAD-based screening approach to analyze mannans
Lisa Johanna Wagner

17:00–17:20 Unraveling Oxidation in Cellulose: Oxidized Functionalities Along and Across the Fiber
Stefanie Gross Belduma

17:20–17:40 STRUCTURE AND DYNAMIC CHANGES OBSERVED IN THERMOPLASTIC MODIFIED ARABINOXYLAN
Ratchawit Janewithayapun

16:00–17:00 ***Chair: Anna Roig***
Paralell session 9, *M102*

16:00–16:20 Multifunctional nanoparticles based on polysaccharides with two-step release behavior
Lennart Hendrik Skodda

16:20–16:40 CARBOXYMETHYLCELLULOSE-FUCOIDAN DISSOLVABLE MICRONEEDLES FOR MINIMALLY INVASIVE AND TARGETED MELANOMA TREATMENT
Ana C. Q. Silva

16:40–17:00 HYBRID HYDROGEL/ NANOPARTICLES DUAL-CANCER DRUG DELIVERY SYSTEM BASED ON AMPHIPHILIC POLYSACCHARIDE-POLYESTER COPOLYMERS
Hélène van den Berghe

16:00–17:40 ***Chair: Marc Delgado Aguilar***
Parallel session 10, *O102* (SCA-salen)

16:00–16:20 From all-cellulose composites to activated carbon: Influence of precursor structure and KOH concentration
Alexa Scheer

16:20–16:40 ELECTROSPINNING OF NANOCELLULOSE-STABILIZED EMULSIONS TOWARD MULTIPHASIC FIBERS
Vanessa Oliveira Castro

16:40–17:00 CELLULOSE-ENABLED MULTIPHASIC SYSTEMS: TAILORING EMULSION STABILIZATION AND RHEOLOGY BY AN ALL-IN-ONE APPROACH
Marc Delgado-Aguilar

17:00–17:20 FUNCTIONAL NANOFIBERS BY UTILIZING THE NATURAL COMPOSITION OF BIO- RESOURCES
Linn Berglund

17:20–17:40 Digital light processing (DLP) 3D-fabricated PEG hydrogel toughened by thermoresponsive and photoreactive xylan derivatives
Yidong Zhang

17:50–19:00 **EPNOE General Assembly**, *N109* (Fälldinsalen)

19:30–22:00 **Welcome Reception**, *Clarion Hotel*

TUESDAY 26 AUGUST 2025

08:30–08:40 **Morning Welcome**, *Tonhallen*

08:40–09:20 **Plenary lecture 3**, POLYSACCHARIDES FROM CANADIAN AGRICULTURAL PRODUCTS: HYDROCOLLOIDS, DIETARY FIBRE AND BIOACTIVES
Steve W. Cui, Guelph Research and Development Centre

09:20–09:35 **Short break**

09:35–10:15 **Plenary lecture 4**, POLYSACCHARIDE SELF-ASSEMBLY TO STOP BLEEDING: TRANSLATING A SCIENTIFIC DISCOVERY INTO A USEFUL PRODUCT
Srinivasa Raghavan, University of Maryland

10:15–11:00 **Coffee break – Campus**

10:20-10.30 **Conference Group Photo:**
Outdoor photo on campus (in front of the university buildings) after the plenary session. Two occasions are scheduled; one will be chosen.

11:00–11:30 ***Chair: Kristiina Oksman***
Keynote 6, *N109* (Fälldinsalen)
Invited lecture: NEXT GENERATION OF MYCELIUM COMPOSITES: FROM WASTE TO COMPOSITES
Alexander Bismarck

11:00–11:30 ***Chair: Laura Nyström***
Keynote 7, *N102*
FROM SUGARS TO FIBRES AND STARCHES: A PHYSICO-CHEMICAL FRAMEWORK FOR UNDERSTANDING NON-CHARGED POLYSACCHARIDE FUNCTIONALITY
Stefano Renzetti

11:00–11:30 ***Chair: Lars Evenäs***
Keynote 8, *M108* (Lubbesalen)
SPATIAL ARRANGEMENT OF CELLULOSE RELATED TO PROCESSING AND PROPERTIES
Yoshiharu Nishiyama

11:00–11:30 ***Chair: Pedro Fardim***
Keynote 9, *M102*
Chitosan-Alginate based magnetic hydrogels: Preparation and characterization of for doxorubicin delivery
Edvani Curti Muniz

11:00–11:30 ***Chair: Carmen Freire***
Keynote 10, *O102* (SCA-salen)
Strategies to turn waste and side streams into high-quality cellulosic fibers
Michael Hummel

11:30–12:10 ***Chair: Kristiina Oksman***
Parallel session 11, *N109* (Fälldinsalen)

11:30–11:50 Mushroom Makeover: Revealing the Potential of Mushroom Residues in Skincare
Anne Zhao

11:50–12:10 HARNESSING MYCELIUM TO UPCYCLE TEXTILE WASTE INTO ECO-FRIENDLY FABRIC BIOCOMPOSITES
Mohamed Hamid Salim

11:30–12:30 ***Chair: Laura Nyström***
Parallel session 12, *N102*

11:30–11:50 PRODUCTION AND CHARACTERIZATION OF MECHANIC-ENZYMATIC TREATED FOOD BY-PRODUCT CARROT POMACE
Rebekka Elke Schmidt

11:50–12:10 MULTI-SCALE STRUCTURAL STUDIES OF WHEAT BRAN USING X-RAY BASED TECHNIQUES
Marjorie Ladd Parada

12:10–12:30 MACROALGAE: AN INTERESTING SOURCE OF HIGHLY DIVERSIFIED SPECIFIC POLYSACCHARIDES – PSAMAL PROJECT
Nicolas Joly

11:30–12:30 ***Chair: Lars Evenäs***
Parallel session 13, *M108* (Lubbesalen)

11:30–11:50 Probing Molecular Architecture in Chemically Modified Celluloses Using Dynamic Nuclear Polarization Solid-State NMR Spectroscopy
Lars Evenäs

11:50–12:10 STRUCTURAL ANALYSIS OF DIFFERENT BACTERIAL FRUCTANS
Luise Ernst

12:10–12:30 Analytical approaches to assess the structural complexity of alpha-glucans
Daniel Wefers

11:30–12:30 ***Chair: Pedro Fardim***
Parallel session 14, *M102*

11:30–11:50 SURFACE MODIFICATION OF POLYCAPROLACTONE 3D SCAFFOLDS USING HYALURONIC ACID-GLYCINE PEPTIDE CONJUGATES TO ENHANCE ENDOTHELIAL CELL ADHESION
Karin Stana Kleinschek

11:50–12:10 Photocurable cellulose nanofiber and its hybrid copolymerized with polyacrylamide for 3D cell culture: synthesis and microgel strategy
Xiaoju Wang

12:10–12:30 Cellulose nanofiber scaffolds with surface carboxy groups for stem cell modulation
Mayumi Hatakeyama

11:30–12:30 ***Chair: Carmen Freire***
Parallel session 15, *O102* (SCA-salen)

11:30–11:50 SUSTAINABLE APPROACH FOR THE MULTIFUNCTIONALIZATION OF STARCH BASED FILMS FOR PACKAGING APPLICATIONS
Carmen S.R. Freire

11:50–12:10 BARRIER PROPERTIES OF CELLULOSE DERIVATIVE FILMS FOR FOOD-PACKAGING
Asle Hammer Berget

12:10–12:30 MULTILAYER BIOBASED PACKAGING FILMS BASED ON NANOCELLULOSES FROM FOOD INDUSTRY BY-PRODUCTS
Chloé Chevigny

12:30–13:50 Lunch break

13:50–15:10 ***Chair: Kristiina Oksman***
Parallel session 16, *N109* (Fälldinsalen)

13:50–14:10 From Batch to Continuous: Microcrystalline Cellulose Production Using Twin-Screw Extrusion
Gert Preegel

14:10–14:30 Optimization of Periodate Oxidation Conditions for Cellulose Nanomaterials
Pragya Pragya

14:30–14:50 NEXT-GENERATION ELASTOMERIC MATERIALS FROM BIOPOLYMERIC NANOFIBROUS BLENDS: UNLOCKING SUSTAINABILITY USING POLYSACCHARIDES
Ana Kramar

14:50–15:10 Optimizing the Mechanical Properties of Cellulosic Foams through Fiber Dimensions
Loïc Gourmelen

13:50–14:50 ***Chair: Laura Nyström***
Parallel session 17, *N102*

13:50–14:10 Microwave assisted extraction of citrus pectins towards edible coatings
Pamela F. M. Pereira

14:10–14:30 GREEN STRATEGY FOR PECTIN EXTRACTION: COMBINING GRINDING WITH DEEP EUTECTIC SOLVENTS
Lucie Perret

14:30–14:50 WAVEPURE®, A LABEL-FRIENDLY SEAWEED POWDER FOR FOOD, FEED, AND COSMETIC APPLICATIONS: CHALLENGES AND OPPORTUNITIES
Gino Mangiante

13:50–15:10 ***Chair: Lars Evenäs***
Parallel session 18, *M108* (Lubbesalen)

13:50–14:10 APPLICATION OF MACHINE LEARNING IN NANOCELLULOSE ASSESSMENT: STREAMLINING SEDIMENTATION TESTING FOR SURFACE AREA EVALUATION
Koyuru Nakayama

14:10–14:30 TEMPO-CATALYZED OXIDATION OF ALKALI-TREATED CELLULOSE SAMPLES
Korawit Chitbanyong

14:30–14:50 Multi-scale characterization of the porosity in pretreated lignocellulosic biomass
Firat Goc

14:50–15:10 WEIGHING POLYSACCHARIDES IN SOLUTION WITH LIGHT USING MASS PHOTOMETRY
Cédric Przybylski

13:50–15:10 ***Chair: Pedro Fardim***
Parallel session 19, *M102*

13:50–14:10 ENGINEERING CHITOSAN BIOHYDRID HYDROGELS FOR ADVANCED WOUND HEALING
Pedro Fardim

14:10–14:30 Development of surface-modified nanocellulose scaffolds for tooth regeneration using dental pulp stem cells
Akihiro Iwasaki

14:30–14:50 CHEMO-ENZYMATIC SYNTHESIS OF PEPTIDE BRIDGED GLYCAN NETWORKS
Rupert Kargl

14:50–15:10 HATU Coupling for Fast, Efficient, and Selective N-Acylation of Chitosan: DoE-Optimized Synthesis of N-(2-(N,N,N-Trimethylammoniumyl)acetyl)-chitosan.
Luca Protti

13:50–14:50 *Chair: Carmen Freire*
Parallel session 20, *O102* (SCA-salen)

13:50–14:10 CHITOSAN-ITACONATE AS BINDER FOR HIGH-STRENGTH FIBREBOARDS
Nils Münstermann

14:10–14:30 IMPROVED CELLULOSE FILMS BY PLASTICIZER BLENDING
Pauliina Ahokas

14:30–14:50 High-consistency quaternization of cellulose fibers and the effect on the fiber and fiber-network properties
Johanna Sjölund

15:10–16:30 **Coffee break – Campus**

16:30–17:40 **Regional innovation system**, *Tonhallen*

17:40–20:00 **Poster session, exhibition, and mingle**, *Tonhallen*

WEDNESDAY 27 AUGUST 2025

08:30–08:40 Morning Welcome, Tonhallen

08:40–09:20 EPNOE Science Award. Plenary lecture 5, STILL NAVIGATING THE COMPLEXITY OF CELLULOSE ANALYSIS
Antje Potthast, BOKU University

09:20–09:35 **Short break**

09:35–10:15 **Plenary lecture 6**, PRODUCTION OF CELLULOSE NANOFIBERS USING BACTERIA AND THEIR PROPERTIES AND APPLICATIONS
Kenji Tajima, Hokkaido University

10:15–11:00 **Coffee break – Campus**

10:20–10.30 **Conference Group Photo:**
Outdoor photo on campus (in front of the university buildings) after the plenary session. Two occasions are scheduled; one will be chosen.

11:00–11:30 ***Chair: Paavo Penttilä***
Keynote 11, *N109* (Fälldinsalen)
On the hornification of cellulose-rich materials
Lars Wågberg

11:00–11:30 ***Chair: Bruno Medronho***
Keynote 12, *N102*
PROBING THE COLLOIDAL BEHAVIOR OF A PLANT CELL WALL ENZYME IN A HIGHLY CONSTRAINED MODEL SYSTEM
Isabelle Capron

11:00–11:30 ***Chair: Stefan Spirk***
Keynote 13, M108 (Lubbesalen)
HOW RHEOLOGY HELPS MAKING 3D PRINTED ADDITIVE- AND CROSSLINKER-FREE BIO-AEROGELS
Tatiana Budtova

11:00–11:30 ***Chair: Lars Berglund***
Keynote 14, *M102*
Proposal of upcycle recycling process using an extremely trace amount of amphiphilic cellulose nanofibrils prepared by aqueous counter collision
Tetsuo Kondo

11:00–12:35 **Bioeconomy Innovation Track**, *O102* (SCA-salen)

11:30–12:30 ***Chair: Paavo Penttilä***
Parallel session 21, *N109* (Fälldinsalen)

11:30–11:50 Sterically stabilized cellulose nanocrystals by Jeffamine grafting: preparation, characterization and colloidal stability
Vladimir Grachev

11:50–12:10 13C solid-state NMR of polysaccharide assemblies: a new approach showing the involvement of water in the organization of macromolecules
Xavier Falourd

12:10–12:30 MODIFICATION OF DIALDEHYDE CELLULOSE FOR IMPROVED RHEOLOGICAL AND WATER ABSORPTION PROPERTIES OF HYBRID SUPERABSORBENT
Mohammed Bezbiz

11:30–12:10 ***Chair: Bruno Medronho***
Parallel session 22, *N102*

11:30–11:50 CHARACTERIZATION OF PLANT CELLULASES FOR DEPOLYMERIZATION OF CELLULOSE AND HEMICELLULOSE
Katja Karppinen

11:50–12:10 Enzymatic Coupling of Ferulic Acid to Pullulan: Structural Analysis, Physicochemical Properties, and Antioxidant Activity
Virginie Dulong

11:30–12:10 ***Chair: Stefan Spirk***
Parallel session 23, *M108* (Lubbesalen)

11:30–11:50 3D printing of bio-inspired hydrogel for photosynthetic cell immobilization and production of chemicals
Tim Salomäki

11:50–12:10 3D PRINTING PLANT CELL WALL MATERIAL BASED COMPOSITE: THE EVALUATION OF INK PRINTABILITY & STABILITY COMPOSED OF PECTIN, HEMICELLULOSE AND CELLULOSE
Smarak Bandyopadhyay

11:30–12:30 ***Chair: Lars Berglund***
Parallel session 24, *M102*

11:30–11:50 POLYSACCHARIDES IN WASTEWATER TREATMENT: PROMISING GREEN FLOCCULATION AGENTS
Simon Leonhartsberger

11:50–12:10 INNOVATIVE CELLULOSE-BASED SUSTAINABLE FLOCCULANTS FOR ENHANCED WASTEWATER TREATMENT
Solange Magalhães

12:10–12:30 CELLULOSE NANOCRYSTALS FOR SUSTAINABLE FLOTATION SEPARATION OF CYANOBACTERIA MICROCYSTIS AERUGINOSA
Sakshi Tyagi

12:30–13:50 Lunch break

13:50–15:10 ***Chair: Paavo Penttilä***
Parallel session 25, *N109* (Fälldinsalen)

13:50–14:10 Sustainable approaches to facilitate cellulose fibrillation
Ana Villares

14:10–14:30 ELUTION REVOLUTION: REVERSING CHIRAL RECOGNITION BY SWAPPING D- FOR L-CELLULOSE
Anna Florentina Lehrhofer

14:30–14:50 EXPLORING THE ORIGIN OF CHIRALITY IN THE CHOLESTERIC PHASES OF CELLULOSE NANOCRYSTALS
Hugo Voisin

14:50–15:10 WOOD XYLANS IN WATER AND DMSO – COLLOIDAL STABILITY, AGGREGATION, AND SOLUBILITY
Tiina Nypelö

13:50–15:10 ***Chair: Bruno Medronho***
Parallel session 26, *N102*

13:50–14:10 DESIGN OF HYALURONIC ACID-LIKE POLYSACCHARIDE STABILIZED COSMETIC EMULSIONS CONTAINING ASCORBIC ACID
Beatriz Almeida

14:10–14:30 Biodegradable guar gum derivatives as rheology modifiers and emulsifiers
Linda Pecchielan

14:30–14:50 New Powder Polymer For 100% Bio-based Cosmetic Formulations
Miruna Bodoc

14:50–15:10 Sustainable Valorization of Algal Side-Streams for Cosmetic Applications
Amparo Jimenez Quero

13:50–15:30 ***Chair: Stefan Spirk***
Parallel session 27, *M108* (Lubbesalen)

13:50–14:10 IMPROVED TRIBOELECTRIC OUTPUT BY BULK AND SURFACE MODIFICATIONS OF REGENERATED CELLULOSE
Christina Dahlström

14:10–14:30 NANOCHITIN ENABLED AQUEOUS PROCESSING OF SUSTAINABLE LITHIUM ION BATTERIES
Vishnu Arumughan

14:30–14:50 OXIDIZED CELLULOSE FOR BINDER APPLICATION IN SILICON ANODE MATERIALS FOR LITHIUM-ION BATTERIES
Véronique Bonnet

14:50–15:10 Wood Luminescent Solar Concentrator
Dan Vivas Glaser

15:10–15:30 BIOBASED MATERIALS AS MEMBRANES IN FLOW BATTERIES AND BEYOND
Stefan Spirk

13:50–15:30 ***Chair: Lars Berglund***
Parallel session 28, *M102*

13:50–14:10 REMOVAL OF CHROMIUM(VI) AND CHROMIUM(III) FROM WATER VIA IONIC NANOCELLULOSE AEROGELS
Roberto J Aguado

14:10–14:30 NANOCELLULOSE-BASED CRYOGELS FOR WATER REMEDIATION
Rubia Gouveia

14:30–14:50 Wastewater treatment with cationized cellulose nanofibres derived from wood fractionation using deep eutectic solvents.
Luís Alves

14:50–15:10 MULTIFUNCTIONAL NANOCELLULOSE MEMBRANES WITH SILVER NANOPARTICLES FOR ENHANCED PHOTOCATALYTIC WATER TREATMENT
Sivoney Ferreira De Souza

15:10–15:30 CITRIC ACID CROSSLINKED LIGNOCELLULOSIC HYDROGEL BEADS FOR THE REMOVAL OF CHROMIUM FROM WASTEWATER
Giani V. Brião

13:50–15:30 **Bioeconomy Innovation Track**, *O102* (SCA-salen)

15:30–15:50 **Coffee break – Campus**

15:50–17:50 ***Chair: Tiina Nypelö***
Parallel session 29, *N109* (Fälldinsalen)

15:50–16:10 Optimization of Chitosan-TPP Nanoparticle Synthesis Using Box-Behnken Experimental Design for Macro and Micronutrient Release
Mhamed Berrada

16:10–16:30 EXPLORING MARINE POLYSACCHARIDES AND BIOBASED PLASTICIZERS FOR THE DEVELOPMENT OF NOVEL THERMOPLASTIC BLENDS
Allison Vercasson

16:30–16:50 Metal-coordinating engineered nanocellulose as a sustainable heterogeneous catalyst
Elisa Giovanna Faggioli

16:50–17:10 Evidencing entropy as a driving force in hemicellulose-cellulose interactions
Tuuli Virkkala

17:10–17:30 Adsorption Mechanisms of Polydopamine on Cellulose Thin Films - A Molecular Dynamics Study
Ali Khodayari

17:30–17:50 Capturing off-flavor compounds in Recirculating aquaculture systems (RAS) with functional cellulose materials
Hannes Orelma

15:50–17:50 ***Chair: Elisabete Frollini***
Parallel session 30, *N102*

15:50–16:10 Immobilized enzyme monolithic platform for tailored poly- and oligosaccharide functionalization
Guillaume Pierre

16:10–16:30 Passerini Modified Carboxymethyl Cellulose: Towards Dually Crosslinked Hydrogels
Adrien Covelli

16:30–16:50 CLICK CHEMISTRY-BASED SYNTHESIS AND ANTIBACTERIAL PROPERTIES OF CRAMP-18 PEPTIDE CONJUGATED CHITOSAN
Sankar Rathinam

16:50–17:10 REGIOSELECTIVELY SULFATED DERIVATIVES OF ALGINATES AND BETA-GLUCANS
Emiliano Bedini

17:10–17:30 COVALENT CROSSLINKING OF ALGINATE BY NATIVE CHEMICAL LIGATION
David Bučak Gasser

17:30–17:50 PROTEIN BINDING QUANTIFICATION AND ORIENTATION ON CHITIN/CHITOSAN SURFACE INTERACTION PLATFORM: THE ROLE OF CHITIN-BINDING DOMAINS
Guillaume Sudre

15:50–17:50 ***Chair: Håkan Edlund***
Parallel session 31, *M108* (Lubbesalen)

15:50–16:10 Polysaccharide monolayers displaying low ice adhesion properties
Federica Marelli

16:10–16:30 ALL-CELLULOSE COMPOSITES AND PHASE CHANGE MATERIALS: CHARACTERIZATIONS FROM THE EMULSION STATE TO THE END-PRODUCT
Soline Quilliard

16:30–16:50 PARAFFIN AS A PHASE CHANGE MATERIAL IN AN ALL CELLULOSIC COMPOSITE STUDIED IN PFG-NMR AND COUPLED DSC-IR
Benoit Duchemin

16:50–17:10 Butanediol from forest based residual streams
Mai Bui

17:10–17:30 ENERGY CANE – SHREDDING AS A PERFECT PRE-TREATMENT TO MAXIMIZE BIOMETHANE PRODUCTION
Telma Teixeira-Franco

17:30–17:50 FROM WOOD TO FIBRILS: A NEW ROLE FOR IONIC LIQUIDS
Aleksandar Todorov

15:50–17:30 ***Chair: Luís Alves***
Parallel session 32, *M102*

15:50–16:10 DOUBLE-NETWORK HYDROGELS WITH ENHANCED MECHANICAL PROPERTIES, ADHESION ABILITY AND IONIC CONDUCTIVITY FOR WEARABLE STRAIN SENSORS
Xiaoyan Qing

16:10–16:30 INJECTABLE HYALURONAN-BASED THERMORESPONSIVE HYDROGELS WITH A TUNABLE TRANSITION TEMPERATURE
Mathieu Madau

16:30–16:50 DOPING FERULOYLATED ARABINOXYLAN COVALENT HYDROGELS WITH CELLULOSE NANOCRYSTALS
Carole Assor

16:50–17:10 Electrostatic Complexations of Carboxylated Cellulose Nanofibrils and Quaternized Chitosan for Antimicrobial Coatings
Joice Kaschuk

17:10–17:30 Tailoring amphiphilic hemicellulose derivatives in suberin dispersions
Minette Kvikant

15:50–17:30 **Bioeconomy Innovation Track**, *O102* (SCA-salen)

19:30–00:00 **GALA DINNER**, *City Hall*

THURSDAY 28 AUGUST 2025

09:25–09:35 **Morning Welcome**, *Tonhallen*

09:35–10:15 **Plenary lecture 7**, CUTTING - EDGE RESEARCH ON NATURAL POLYSACCHARIDES IN CHINA
Guang Yang, Huazhong University of Science & Technology

10:15–11:00 **Coffee break – Campus**

11:00–11:30 ***Chair: Karin Stana Kleinschek***
Keynote 15, *N109* (Fälldinsalen)
ADVANCING BIORENEWABLE TECHNOLOGIES THROUGH THE LENS OF COLLOID SCIENCE
Orlando Rojas

11:00–11:30 ***Chair: Thomas Rosenau***
Keynote 16, *N102*
UNVEILING THE UNUSUAL FEATURES OF BACTERIA: POLYSACCHARIDES: BIO-EMULSIFIER AND ANTI-BIOFILM CAPSULE FROM ANTARCTICA
Angela Casillo

11:00–11:30 ***Chair: Magnus Norgren***
Keynote 17, *M108* (Lubbesalen)
CATCHING ENZYMES IN ACTION
Laurence Ramos

11:00–11:30 ***Chair: Alireza Eivazi***
Keynote 18, *M102*
REACTIVE AND THERMORESPONSIVE POLYSACCHARIDE DERIVATIVES FOR CLICK-CHEMISTRY APPROACHES – FROM POLYMER CHEMISTRY TO 3D BIOPRINTING AND NANOGELS
Martin Gericke

11:00–11:30 ***Chair: Juha Fiskari***
Keynote 19, *O102* (SCA-salen)
Chemical Conversion of Cellulose into Polysacharides and Their Applications
Jin Zhu

11:30–12:30 ***Chair: Karin Stana Kleinschek***
Parallel session 33, *N109* (Fälldinsalen)

11:30–11:50 VISUALIZING THE CHEMISTRY OF LIGNOCELLULOSIC MATERIALS ACROSS ALL HIERARCHICAL STRUCTURES
Agneta Richter-Dahlfors

11:50–12:10 Chemis-tree Engineered Sandwich Composites
Nesrine Debabèche

12:10–12:30 Water addition process impact on thermo-pressed cellulose mattress: the role of bound and free water on cellulose fibers drying.
Mathilde Bernard-Catinat

11:30–12:30 ***Chair: Thomas Rosenau***
Parallel session 34, *N102*

11:30–11:50 LONGITUDINAL ORDER IN CELLULOSE: METHODOLOGY AND PERSPECTIVES
Benoit Duchemin

11:50–12:10 THE QUANTITATIVE MOLECULAR WEIGHT-ANTIMICROBIAL ACTIVITY RELATIONSHIP FOR CHITOSAN
Már Másson

12:10–12:30 ADVANTAGES OF CHITOSAN STANDARDS IN THE DETERMINATION OF MOLECULAR WEIGHT
Christian Willems

11:30–12:10 ***Chair: Magnus Norgren***
Parallel session 35, *M108* (Lubbesalen)

11:30–11:50 OLEYL-HYALURONAN: FROM SELF-ASSEMBLY AND INTERACTIONS TO ANTIMICROBIAL AND WOUND HEALING APPLICATIONS
Jaroslav Sita

11:50–12:10 UNDERSTANDING INTERACTIONS OF PHARMACEUTICAL POLLUTANTS WITH CELLULOSIC MATERIALS
Maija Vuoriluoto

11:30–12:30 ***Chair: Alireza Eivazi***
Parallel session 36, *M102*

11:30–11:50 PREDICTION OF CONTROLLED RELEASE FROM MATRIX TABLETS CONTAINING HPMC
Matthias Knarr

11:50–12:10 UCST gelation type of 4-O-methyl-D-Glucurono-D-xylan (MGX) from hardwood in aqueous media
Raphaël Buret

12:10–12:30 FUCOIDAN AND K-CARRAGENAN-BACTERIAL CELLULOSE FILMS: IN SITU SYNTHESIS AND CHARACTERIZATION
Patricia Cazón Díaz

11:30–12:30 ***Chair: Juha Fiskari***
Parallel session 37, *O102* (SCA-salen)

11:30–11:50 EXPLOITING MARINE POLYSACCHARIDES FOR THE DESIGN OF MORE SUSTAINABLE THERMOSET CORK BASED MATERIALS
Vasco Valente

11:50–12:10 PREPARATION OF HYBRID POLYSACCARIDE / METAL OXIDE MEMBRANES FOR APPLICATIONS IN CATALYSIS
Hans Lesny

12:10–12:30 MULTI-SCALE INVESTIGATION OF THE EFFECT OF PHOTOCURABLE POLYETHYLENE GLYCOLDIACRYLATE ON THE SELF-ASSEMBLY OF CELLULOS NANOCRYSTALS
Lorenzo Metilli

12:30–13:50 **Lunch break**

13:50–14:30 ***Chair: Karin Stana Kleinschek***
Parallel session 38, *N109* (Fälldinsalen)

13:50–14:10 Surface-sensitive approach to investigate wood cell wall component interactions aimed for improving pulping process chemistry
Ville Rissanen

14:10–14:30 PROCESSING CONSISTENCY IN HIGH-PRESSURE HOMOGENIZATION AS A KEY FACTOR IN ENERGY AND QUALITY TRADE-OFFS OF NANOCELLULOSE PRODUCTION
Giovana Signori-Iamin

13:50–14:50 ***Chair: Thomas Rosenau***
Parallel session 39, *N102*

13:50–14:10 Targeting active domain discovery of natural polysaccharide
Kan Ding

14:10–14:30 Investigation of intermolecular interaction between quinacridone pigment and polysaccharide nanofibers by gel-state NMR spectroscopy
Yasuko Saito

14:30–14:50 Potential of glucuronoxylanases as a tool for deciphering the molecular structure of hardwood acetylated glucuronoxylan
Pramod Sivan

13:50–15:10 ***Chair: Magnus Norgren***
Parallel session 40, *M108* (Lubbesalen)

13:50–14:10 FROM FEEDSTOCK TO FIBER - COMPARISON OF LYOCELL FIBER PRODUCTION FROM AGRICULTURAL FEEDSTOCK USING TWO ALTERNATIVE PULPING PROCESSES
Max Winkler

14:10–14:30 CHEMICAL RECYCLING OF COTTON-POLYESTER TEXTILES VIA TEMPO-MEDIATED OXIDATION
Julia Vuorinen

14:30–14:50 Enhanced rhodamine-6G uptake of lytic polysaccharide monooxygenase- treated lyocell fabric
Maximilian Huemer

14:50–15:10 Fiber development from polysaccharides applied to textiles and functional nonwovens
Oleksandr Nechyporchuk

13:50–15:10 ***Chair: Alireza Eivazi***
Parallel session 41, *M102*

13:50–14:10 Cracking Carbohydrates: Modern Methanolysis for Lignocellulosic Landscapes
Markus Eder

14:10–14:30 ENHANCED BEAUTY OF DUTCH ROSES: GREEN APPROACH FOR CELLULOSE NANOMATERIALS
Joice Kaschuk

14:30–14:50 UNDERSTANDING THE COMPLEX FORMATION OF HEMICELLULOSE-POLYPHENOL ASSEMBLIES
Sarah Mamdouh

14:50–15:10 SYNTHESIS AND CHARACTERIZATION OF POLYSACCHARIDE-BASED BLOCK COPOLYMERS OBTAINED BY CLICK POLYMERIZATION OF NEW MONOMERS DERIVED FROM β-CYCLODEXTRIN
Jose Kovensky

13:50–14:50 ***Chair: Juha Fiskari***
Parallel session 42, *O102* (SCA-salen)

13:50–14:10 Glycerol-plasticized, cellulose-based bioplastics with beeswax as innovative, biodegradable food packaging
Susana Guzman-Puyol

14:10–14:30 PERACETIC ACID PRETREATMENT OF ASPLUND-REFINED SPRUCE: CHEMICAL ANALYSIS AND FIBER PERFORMANCE
Cornelia Hofbauer

14:30–14:50 The sorption behaviour of anionic dyes on cationised cellulose fibres
Felix Netzer

15:10–15:30 **Coffee break – Campus**

15:30–16:00 **CLOSING CEREMONY**, *N109* (Fälldinsalen)

The Book of Abstracts is available as a PDF at:
https://www.epnoe2025.org/abstracts/

BIOECONOMY INNOVATION TRACK

WEDNESDAY, AUGUST 27, 2025, *O102* (SCA-salen)

11:00–11:05	Katariina Torvinen, EPNOE
11:05–11:45	Jukka Kantola, World Bioeconomy Association
11:45–12:10	Orlando Rojas, Boreal Alliance
12:10–12:35	Viivi Villa-Nuottajärvi, Valmet
12:35–13:50	LUNCH BREAK
13:50–14:15	Gert Preegel, Fibenol
14:15–14:40	Philip Scholten, Bloom Biorenewables
14:40–15:05	Katariina Torvinen, VTT
15:05–15:30	Isabel Burdallo, RISE Processum
15:30–15:50	COFFEE BREAK
15:50–16:15	Karin Stana Kleinschek, EPNOE
16:15–16:40	Therese Nylander, SCA Renewable Energy
16:40–17:05	Maria Gunnarsson, TreeToTextile AB
17:05–17:30	Wrap up and discussion

Good to know – Practical information about Sundsvall

Getting around

- Sundsvall is a walkable city, but you can also get around easily by bus or taxi.
- City buses: Operated by Din Tur. Tickets can be bought in the Din Tur app, by credit card on board, or at the kiosk .
- Taxi: We recommend using established companies such as Sverige Taxi (+46 60 199 000), Taxi Drakstaden (+46 60 123 456), or TaxiKurir (+46 60 150 000).
- Walking distances: Most hotels are within 10–20 minutes' walking distance from the conference venue.

Tourist Information

- For tips on restaurants, attractions, and activities in the area, visit Visit Sundsvall's website at visitsundsvall.se.
- If you have any questions or need assistance, you are welcome to contact Visit Sundsvall's visitor service:
- Email: info@destinationsundsvall.se
- Phone: +46 60 658 58 00

Currency & Payments

- Sweden uses the Swedish krona (SEK).
- Most places accept credit/debit cards – cash is rarely needed.

Emergency & Health

- Emergency number: 112
- Pharmacies (Apotek) are located throughout the city and usually open 8:30–18:00, with some variation.

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