



**Preliminary Technical Program**

*(subject to change)*

**Monday, 24 June 2013 - Stockholm, Sweden**

18:00 – 18:30 Sing-Sing, Lindstedtsvägen 30, KTH Campus

**Session a: Speaker/Session Chair Meeting Reception**

18:30 – 19:30 Sing-Sing, Lindstedtsvägen 30, KTH Campus

**Session b: Welcome Reception**

**Tuesday, 25 June 2013**

**F1/F2 Conference Rooms, Lindstedtsvägen 22, KTH Campus, Stockholm, Sweden**

8:00 – 8:45

**Session 1: Welcome & Keynote Presentation**

- Welcome & Introductions: Conference Chairs
- Keynote Speaker: **David Lazarevic**, Division of Environmental Strategies Research and the Division of Industrial Ecology, KTH

Session Chair: **Bruce Lyne**, Royal Institute of Technology

9:00 – 10:30 **F1**

**Session 2: CN Processing**

**Session Chair: Alan Rudie**, US Forest Products Laboratory

- High CNC Yield with Zero Cellulose Loss: Recovering Cellulosic Solid Residue (CSR) from CNC Production Waste Stream to Produce Strong and Optically Transparent Film, **Junyong Zhu**, US Forest Products Laboratory
- Energy Efficient Manufacture of Microfibrillated Cellulose by Attachment of Carboxymethyl Cellulose, **Mikael Ankerfors**, Innventia AB
- Correlations Between Pulp Composition and Efficiency of M/NFC Production, **Michel Petit-Conil**, FCBA
- Water Redispersable Dried Nanofibrillated Cellulose, **Julien Bras**, Grenoble INP Pagora - LGP2 (FSCN)

9:00 – 10:30 **F2**

**Session 3: Self and Directed Assembly of Nanocellulose**

**Session Chair: Eero Konturri**, Aalto University

- Tailoring of Supramolecular Interactions in Nanocellulose Systems for New Functions, **Olli Ikkala**, Aalto University
- Nanoparticles and Nanostructures from Direct- and Self- Assembly of Components Cleaved from Fiber Cell Walls, **Orlando Rojas**, North Carolina State & Aalto University
- Pattern Production in Iridescent Cellulose Nanocrystal Films, **Stephanie Beck**, FPInnovations
- 2-Dimensional Nanoscale Structures from Cellulosic Materials, **Eero Konturri**, Aalto University

**10:30 – 11:00 BREAK**



**Preliminary Technical Program**

(subject to change)

<p>11:00 – 12:30 <b>F1</b></p> <p><b>Session 4:</b> CNC Composite Processing  <b>Session Chair:</b> <b>Hamdy Kahlil</b>, Woodbridge Group</p> <ul style="list-style-type: none"> <li>• Fabrication of Polyolefin / Nanocrystalline Cellulose Composites by Conventional Extrusion and by Water-Assisted Extrusion, <b>Karen Stoeffler</b>, <i>National Research Council Canada</i></li> <li>• Synthesis and Characterization of NCC-Reinforced Polyacrylamide Nanocomposite Hydrogels, <b>Wadood Hamad</b>, <i>FPIInnovations</i></li> <li>• Super-Strong Soy Protein/Nanocellulose Composite Aerogels, <b>Julio Arboleda</b>, <i>North Carolina State University</i></li> <li>• Nano Crystalline Cellulose Composite Foams From Renewable Resources, <b>Shaul Lapidot</b>, <i>Melodea Ltd</i></li> </ul>	<p>11:00 – 12:30 <b>F2</b></p> <p><b>Session 5:</b> Surface Modification and Responsive Materials  <b>Session Chair:</b> <b>Ted Wegner</b>, US Forest Products Laboratory</p> <ul style="list-style-type: none"> <li>• Surface Assembly of Chemically Reactive Polysaccharides on Nanocellulose, <b>Janne Laine</b>, <i>Aalto University</i></li> <li>• Surface Modified Cellulose Nanocrystals for Use as in Durable Good Applications, <b>Dylan Boday</b>, <i>IBM Materials Engineering</i></li> <li>• Responsive Cellulose Nanocrystals: A One-Step, Water-Based Polymerization Method, <b>Emily Cranston</b>, <i>McMaster University</i></li> <li>• Towards a Green Chemistry for Surface Functionalization of Cellulose Nanocrystals: the Case of Aroma Grafting Compounds, <b>Etzael Espino Perez</b>, <i>Grenoble INP Pagora-PGP2 (FSCN)</i></li> </ul>
---	--

12:45 – 13:45 **Lunch in Student Union (k rhuset)**

**Session 6: Keynote Presentation**

Keynote Speaker: **Arthur Carty**, Executive Director & Research Professor in the Department of Chemistry, Waterloo Institute for Nanotechnology, Univ. of Waterloo, and Special Advisor to the President on Intl. Science and Technology Collaboration  
 Session Chair: **Robert Moon**, US Forest Products Laboratory

<p>14:00 – 15:30 <b>F1</b></p> <p><b>Session 7:</b> CNF Composite Processing  <b>Session Chair:</b> <b>Alain Dufresne</b>, Grenoble Institute of Technology</p> <ul style="list-style-type: none"> <li>• Membranes from Renewable Resources for Water-Purification, <b>Andreas Mautner</b>, <i>Imperial College London</i></li> <li>• Green Cellulose Nanofibre Composite Membranes, <b>Warren Batchelor</b>, <i>Monash University</i></li> <li>• Hemicellulose Acetates as Matrix/Binder for Nanofibrillated Cellulose Reinforced Composites, <b>Agnes Stepan</b>, <i>Chalmers University of Technology</i></li> <li>• Hydrophobic Nanofibrillated Cellulose-Based Nanopaper Through a Mild Chemical Functionalization Approach, <b>Houssine Sehaqui</b>, <i>EMPA</i></li> </ul>	<p>14:00 – 15:30 <b>F2</b></p> <p><b>Session 8:</b> Nanocellulose-Organic/Inorganic Hybrids  <b>Session Chair:</b> <b>Marie-Pierre Laborie</b>, University of Freiburg</p> <ul style="list-style-type: none"> <li>• Hydrogelation of Carboxylated Cellulose Nanofibrils Modulated by Metal Ions, <b>Hong Dong</b>, <i>U.S. Army Research Laboratory</i></li> <li>• Magnetic Cellulose Nanocrystal Hybrid, <b>Tiina Nypel�</b>, <i>North Carolina State University</i></li> <li>• ZnO-Bacterial Cellulose Nanocrystal Composite and its Potential as Energy Harvesting Material, <b>Levente Csoka</b>, <i>University of West Hungary</i></li> <li>• Atomic Layer Deposition on Cellulose Nanocrystal Aerogels, <b>John Simonsen</b>, <i>Oregon State University</i></li> </ul>
---	---



**Preliminary Technical Program**

*(subject to change)*

15:30 – 16:00 BREAK	
<p>16:00 – 17:30 <b>F1</b>  <b>Session 9:</b> CN Composite Interfaces  <b>Session Chair:</b> <b>Wadood Hamad</b>, FPIInnovations</p> <ul style="list-style-type: none"> <li>• Interface/Interphase Measurements of Cellulose Nanofiber-Based Nanocomposites, <b>Jeffrey Gilman</b>, NIST</li> <li>• Structure Properties and Interface in Polystyrene Nanocomposites Based on Cellulose Nanocrystals with Physical and Chemical Modifications from Non-Covalent and Covalent PEG Compatibilization, <b>Ning Lin</b>, Grenoble Institute of Technology (Grenoble INP)-Pagora</li> <li>• Development of Pigmented Composites on the Basis of Nano- and Micro-Fibrillated Cellulose, <b>Michel Schenker</b>, Omya Development AG</li> <li>• Utilising the Potential of Bacterial Cellulose in Composite Materials, <b>Alexander Bismarck</b>, Imperial College London</li> </ul>	<p>16:00 – 17:30 <b>F2</b>  <b>Session 10:</b> Assembly in Suspension and Rheology  <b>Session Chair:</b> <b>Yaman Boluk</b>, University of Alberta</p> <ul style="list-style-type: none"> <li>• The Rheological Properties Nanofibrillated Cellulose at Moderate Solids, <b>Douglas Bousfield</b>, University of Maine</li> <li>• Nanofibrillar Cellulose - The link Between Rheology and Stabilising Effect, <b>Antti Laukkanen</b>, UPM Corporation</li> <li>• Rheological Properties of Suspensions of Nanocrystalline Cellulose in Polymer Solutions, <b>Liyan Zhao</b>, Alberta Innovates Technology Futures</li> <li>• Hybrid Polymer-Nanocrystalline Cellulose (NCC) Suspensions as Smart Materials-<b>Yaman Boluk</b>, University of Alberta</li> </ul>

17:30 – 19:30 Foyer

**Session 11:** Conference Reception, Poster Session and Exhibitor Displays  
 Session chair: **Martti Toivakka**, Abo Akademi University

*Over 50 posters will be on display. Details on accepted poster presentations see last page.*

**Wednesday, 26 June 2013**  
**F1/F2 Conference Rooms, Lindstedtsvägen 22, KTH Campus, Stockholm, Sweden**

8:00 – 8:45 **F1**

**Session 12: Keynote Presentation**

Keynote Speaker: **Katja Salmenkivi**, Pöyry Management Consulting, “Towards High-Value Applications of Nanocellulose: A Player and Patent Landscape Approach”

**Session Chair:** **Ulla Forsstrom**, VTT Technical Research Centre of Finland



**Preliminary Technical Program**

(subject to change)

<p>9:00 – 10:30 <b>F1</b>  <b>Session 13:</b> NFC Processing for Paper Webs  <b>Session Chair:</b> Jouni Paltakari, Aalto University</p> <ul style="list-style-type: none"> <li>• Flow Modifications with Nanofibrillated Cellulose Suspensions, <b>Paul Krochak</b>, <i>Innventia AB</i></li> <li>• Processability of Nanocelluloses, <b>Ari Jäsberg</b>, <i>VTT Technical Research Centre of Finland</i></li> <li>• Potential of Micro Fibrillar Cellulose in Water-Laid and Foam-Laid Papers, <b>Jani Lehmonen</b>, <i>VTT Technical Research Centre of Finland</i></li> <li>• Structural Change in Nanofibrillated Cellulose Mat by Grinding, Dewatering, and Drying Conditions, <b>Kyujeong Sim</b>, <i>Seoul National University</i></li> </ul>	<p>9:00 – 10:30 <b>F2</b>  <b>Session 14:</b> CN Composites  <b>Session Chair:</b> Johan Foster, University of Fribourg</p> <ul style="list-style-type: none"> <li>• Thermal Behavior of Cellulose Nanocrystal Films, <b>Jeffrey Youngblood</b>, <i>Purdue University</i></li> <li>• Effect of Temperature and Humidity on Mechanical Properties of Cellulose Nano-Crystals Films, <b>Siqun Wang</b>, <i>University of Tennessee</i></li> <li>• Thermo-Sensitive Ultrathin Nanocomposite Films Manufactured with Cellulose Nanowhiskers and Maleic Anhydride Plasma Polymerization, <b>Michel Brioude</b>, <i>University of Freiburg</i></li> <li>• Biomimetic Nanocomposites Through Self-Assembly of Nanofibrillated Cellulose and Water-Soluble Polysaccharides, <b>Monika Österberg</b>, <i>Aalto University</i></li> </ul>
<p>10:30 – 11:00 <b>BREAK</b></p>	
<p>11:00 – 12:30 <b>F1</b>  <b>Session 15:</b> NFC &amp; Fillers  <b>Session Chair:</b> Sean Ireland, Verso Paper Corp.</p> <ul style="list-style-type: none"> <li>• MFC Labelling, Retention and Distribution in Paper, <b>Juha Salmela</b>, <i>VTT Technical Research Centre of Finland</i></li> <li>• The Effects of Nanocelluloses on Flocculation and Retention of Papermaking Fillers, <b>Markus Korhonen</b>, <i>Aalto University</i></li> <li>• Pre-Flocculation of GCC and Clay onto Nano-/Microfibrillated Cellulose as Compound to Improve the Strength Properties of Highly Filled Graphical Papers, <b>Tiemo Arndt</b>, <i>Papiertechnische Stiftung (Heidenau)</i></li> <li>• Binding Fillers for Paper Applications Using Nanoscale Calcium Silicate Hydrate Coating and Nanofibrillated Cellulose, <b>Katariina Torvinen</b>, <i>VTT Technical Research Centre of Finland</i></li> </ul>	<p>11:00 – 12:30 <b>F2</b>  <b>Session 16:</b> CNF Barrier  <b>Session Chair:</b> Julien Bras, <i>Grenoble INP Pagora - LGP2 (FSCN)</i></p> <ul style="list-style-type: none"> <li>• Nanocomposite Barrier, <b>Tom Lindstrom</b>, <i>Innventia AB</i></li> <li>• Use of cellulose Microfibrils in the Development of Barrier Materials – Benefits and Challenges, <b>Céline Guézennec</b>, <i>Centre Technique du Papier</i></li> <li>• Green Barrier Coating and Film of Microfibrillated Cellulose (MFC) and Its Composites, <b>Yulin Deng</b>, <i>Georgia Institute of Technology</i></li> <li>• Nanocellulose Films and Coatings with Tunable Oxygen and Water Vapor Permeability for Use in Renewable Packaging Solutions, <b>Christian Aulin</b>, <i>Innventia AB</i></li> </ul>

12:45 – 13:45 **Lunch in Student Union (kårhuset)**

**Session 17: Keynote Presentation**

Keynote Speaker: TBA

**Session Chair:** World Nieh, US Forest Service

**Preliminary Technical Program**

(subject to change)

<p>14:00 – 15:30 <b>F1</b>  <b>Session 18:</b> Packaging  <b>Session Chair: Tamal Ghosh</b>, Pepsico                  Advanced Research</p> <ul style="list-style-type: none"> <li>• Nanofibrillated Cellulose/ Layered Silicates Composite Films for Barrier Applications, <b>Tanja Zimmermann</b>, <i>EMPA</i></li> <li>• Hybrid Antimicrobial Copper-Cellulose Based Nanocomposite Embedded in Thermoplastic Resins for Active Food Packaging, <b>Gloria Oporto</b>, <i>West Virginia University</i></li> <li>• Fungal Chitin – Promising Renewable Nanomaterial for Future, <b>Wan Mohd Fazli Wan Nawawi</b>, <i>Polymer and Composite Group, Imperial College London</i></li> <li>• Improving THE Barrier Properties of Poly(Lactic Acid) Bottle by APPLYing LbL-technique, <b>Katalin Halasz</b>, <i>University of West Hungary</i></li> </ul>	<p>14:00 – 15:30 <b>F2</b>  <b>Session 19:</b> Safety 1  <b>Session Chair: JoAnne Shatkin</b>, CLF Ventures</p> <ul style="list-style-type: none"> <li>• Environmental Health and Safety Studies Associated with the Demonstration Scale Production of NanoCrystalline Cellulose (NCCTM) at the CelluForce plant in Windsor, Quebec, <b>Brian O'Connor</b>, <i>FPIInnovations</i></li> <li>• Amount, Characteristics and Toxicity of Nano-Scale Cellulose Fibrils, <b>Heli Kangas</b>, <i>VTT Technical Research Centre of Finland</i></li> <li>• Verifying the Biocompatibility of Cellulose Nanofibril Structures as a First Step to Develop Filters for Air-Borne Nano-Particles, <b>Kristin Syverud</b>, <i>Paper and Fibre Research Institute</i></li> <li>• Biodistribution of Poly (Lactic-Co-Glycolic) Acid (PLGA) and PLGA/Chitosan Nanoparticles in F344 Rats Orally Exposed to Nanoparticles for Seven Days, <b>Linda Cross</b>, <i>Louisiana State Univ. and LSU AgCenter</i></li> </ul>
<b>15:30 – 16:00 BREAK</b>	
<p>16:00 – 17:30 <b>F1</b>  <b>Session 20:</b> CN Modeling  <b>Session Co-Chairs: Stan Stoyanov and Andriy Kovalenka</b>, National Institute of Nanotechnology</p> <ul style="list-style-type: none"> <li>• Molecular Mechanisms of the Axial Stiffness of Cellulose Nanocrystals, <b>Malin Wohler</b>, <i>Wallenberg Wood Science Center</i></li> <li>• Multiscale Modeling for Rational Design of Nanocrystalline Cellulose Based Nanocomposites, Foams, Drug Carriers, and Security Inks, <b>Andriy Kovalenko</b>, <i>National Institute for Nanotechnology</i></li> <li>• Multiscale Modeling of Solvation Structure and Thermodynamics of Cellulose Nanocrystals in Solution: Dispersion, Functionalization, <b>Sergey Gusarov</b>, <i>National Institute for Nanotechnology</i></li> <li>• Micro-Rheology of Nanocellulose Suspensions with Smoothed Particle Hydrodynamics Simulation, <b>Jukka Ketoja</b>, <i>VTT Technical Research Centre of Finland</i></li> </ul>	<p>16:00 – 17:30 <b>F2</b>  <b>Session 21:</b> Safety 2  <b>Session Chair: Brian O'Connor</b>, FPIInnovations</p> <ul style="list-style-type: none"> <li>• Consumer, Health and Safety perspectives: Recent results related to nanofibrillar cellulose, <b>Juulia Rouhiainen</b>, <i>Poyry Management Consulting Oy</i></li> <li>• Different products – common concerns? Negotiating nanosafety, <b>Petrus Kautto</b>, <i>Finnish Environment Institute</i></li> <li>• Sustainability Assessment of Nanocellulose and Its Applications: A Critical Review and a Proposal of an Integrated Methodology, <b>Marco Cinelli</b>, <i>University of Warwick</i></li> <li>• Incorporating Life Cycle Thinking into Risk Assessment for Nanoscale Materials: Case Study of Nanocellulose, <b>Jo Anne Shatkin</b>, <i>CLF Ventures Inc</i></li> </ul>



**Preliminary Technical Program**

(subject to change)

18:30 – 22:00

**Session 22:** Conference Dinner at the Vasa Museum

**Thursday, 27 June 2013**

**F1/F2 Conference Rooms, Lindstedtsvägen 22, KTH Campus, Stockholm, Sweden**

8:00 – 8:45 **F1**

**Session 23: Keynote Presentation**

Keynote Speaker: **Tom van Teunenbroek**, *Ministry of Infrastructure and Environment (Netherlands)*, “Nanosafety Research and Legislation in European Union.: Future Activities”

Session Chair: **Julia Rouhiainen**, Poyry Management Consulting Oy

9:00 – 10:30 **F1**

**Session 24: Nanotech Coatings 1**

**Session Chair: Pia Qvintas, VTT**

- Functional Thin Coatings for Paper by Foam Coating, **Karita Kinnunen**, *VTT Tech University of Centre Finland*
- Roll-to-Roll Atomic Layer Deposition for Flexible Substrates, **Kimmo Lahtinen**, *Lappeenranta Univ. of Technology*
- The Properties of Paper Coating Layers That Contain Nanofibrillated Cellulose, **Douglas Bousfield**, *University of Maine*
- Meeting the Challenge of Replacing High Cost White Top Liner: Designing the High Bright Nanotechnology Solution, **Catherine Ridgway**, *Omya Development AG*

9:00 – 10:30 **F2**

**Session 25: Novel Medical Applications**

**Session Chair: Orlando Rojas**, North Caroline State University & Aalto University

- Surface Functionalized Nanofibrillar Cellulose (NFC) Film as a Platform for Immunoassays and Diagnostics, **Ilari Filpponen**, *Aalto University*
- Nanoemulsion Based-Biopolymers for Oral Delivery of Insulin, **Barbara Abraham-Vieira**, *Faculty of Pharmacy of University of Coimbra*
- Cellulose Nanoparticle Based Ester Prodrugs for Potential Colon-specific Drug Delivery: Synthesis, Physicochemical Characterization and Drug Release Studies, **Yuvraj Negi**, *IIT Roorkee*
- Nanofibrillated Cellulose as Carrier for Short Peptides Assemblies for Human IgG Detection and Affinity Separation, **Yanxia zhang**, *North Carolina State University*

10:30 – 11:00 **BREAK**

11:00 – 12:30 **F1**

**Session 26: Nanotech Coatings 2**

**Session Chair: Doug Bousfield**, University of Maine

- Multifunctional Nanoparticle Coatings on Cellulose Based Substrates Using Liquid Flame Spray (LFS) Technique, **Mikko Tuominen**, *Tampere University of Technology*
- Wear Resistance of LFS-Nanoparticle Coated Paper, **Milena Stepien**, *Abo Akademi University*
- Cellulose Nanofibers: A Suitable Additive to Improve the Performance of Wood Coatings?

11:00 – 12:30 **F2**

**Session 27: Standards Characterization**

**Session Chair: Emily Cranston**, McMaster University

- Viscosity Measurement – A Valuable Tool for Routine Quality Control of Fibril Cellulose, **Asko Sneek**, *VTT Technical Research Centre of Finland*
- Fractional Analysis and Characterization of Microfibrillated Cellulose, **Ossi Laitinen**, *University of Oulu*
- Surface Ionic Charge on Cellulose Nanocrystals, **Derek Gray**, *McGill University, Department of*



### Preliminary Technical Program

(subject to change)

<p><b>Stefan Veigel</b>, University of Natural Resources and Life Sciences</p> <ul style="list-style-type: none"> <li>Nanofibrillated Cellulose as an Additive in Coating Applications, <b>Saila Jämsä</b>, VTT Technical Research Centre of Finland</li> </ul>	<p>Chemistry</p> <ul style="list-style-type: none"> <li>Surface Modification of Cellulose Nanowhiskers, <b>Wim Thielemans</b>, University of Nottingham</li> </ul>
---	--

12:45 – 13:45 **Lunch On Own**

<p>14:00 – 16:00 <b>F2</b></p> <p><b>Session 29:</b> Standardization Workshop</p> <p>Session Chair: <b>World Nieh</b>, US Forest Service</p>
<p>16:00 – ADJOURN</p>

16:00 – 17:00 Post-Meeting Steering Committee Meeting

- Review/Critique of 2013 Conference and Planning for 2014–Steering Committee

### POSTERS

Effect of Annealing on the Structural, Magnetic and Magnetocaloric Effect in Ni <sub>49</sub> Mn <sub>38</sub> Sn <sub>13</sub> Ribbons Heusler Alloy.- <b>Mst Nazmunnahar</b> , University of Basque Country(UPV/EHU)
Nanoemulsion Based-Biopolymers for Oral Delivery of Insulin- <b>Barbara Azevedo Abraham-Vieira</b> , Faculty of Pharmacy of University of Coimbra
Influence of Chemical Grafting of NFC on Antibacterial Activity- <b>Julien Bras</b> , Grenoble INP Pagora - LGP2
Immobilization of Amino-Containing Functionalities onto the External Surface of MCM-41- <b>Nadiia V. Roik</b> , Chuiko Institute of Surface Chemistry of NAS of Ukraine
Production of Oxygen Scavenging Board Containing Enzymes Coupled to Nanoparticles- <b>Kristin Johansson</b> , Karlstad University
Corrosion Protection Properties of Superhydrophobic Surface Coatings in Different Wetting States- <b>Lina Martinsson</b> , KTH and Institute for Surface Chemistry (YKI)
Preparation of Chitin Nanofibers and Nanocomposite from Shrimp Shell Wastage- <b>Subir Kumar Biswas</b> , Asian Institute of Technology
Size and Flow Properties Control of Nanofibrillated Cellulose from Date Palm Tree by Control TEMPO-Mediated Oxidation Time- <b>Karima Ben Hamou</b> , International School of Paper, Print Media and Biomaterials
Use of Different Quality of MFC for Producing Controlled Release Films- <b>Julien Bras</b> , Grenoble INP Pagora - LGP2
Effect of Nano Particle Size Zinc Oxide Coating on Optical Properties and Printing Characteristics of Paper- <b>Dharm Dutt</b> , IIT Roorkee
Current Understanding and Critical Gaps in Environmental, Health and Safety Issues for Nanomaterials- <b>Julia Rouhiainen</b> , Poyry Management Consulting Oy
Influence of Poly(Vinyl Alcohol) on Suspensions of Nanofibrillated Cellulose and Subsequent Spray Drying- <b>Lars M. Jarnstrom</b> , Karlstad University
Reinforcing Nanocellulose Isolated from Banana Rachis and Corn Husk- <b>Robin Zuluaga Gallego</b> , Pontificia Bolivariana University
Hydrophobization of Cellulosic Substrates by Creating Surface Nanostructures Using Enzymatic Methods-



**Preliminary Technical Program**

(subject to change)

<b>Oriol Cusola, Universitat Politècnica de Catalunya UPC-BarcelonaTech</b>
A Biotechnological Approach to Produce High Cellulose-Content NFC from Alkaline Pulps- <b>Facundo Beltramino, Universitat Politecnica De Catalunya</b>
Effect of Enzyme Concoctions on Deinking Efficiency and its Relationship with Nano-Variations on Fiber Surface Roughness- <b>Dharm Dutt, IIT Roorkee</b>
AFM Imaging and Analysis of CNF Reinforced Films Under Strain- <b>Michael Obersriebnig, BOKU Vienna</b>
Exploring the Bleaching Possibilities of Dissolving Grade-Pulps by Means of Enzymatic Treatments- <b>Elisabet Quintana, Universitat Politecnica De Catalunya</b>
Comparative Study of Obtaining Cellulose Nanofibers from Curaua Fibers by Enzymatic and Acid Hydrolysis- <b>Ana Carolina Correa, Embrapa Instrumentation</b>
Thermal Properties and Antioxidant Potential Evaluation of Dioxane Lignin Nanoparticles: Matrix Material for Controlled Release of Agrochemicals.- <b>Srinivasa Rao Yearla, University of Hyderabad</b>
Mechanical Properties of High Yield Pulp Handsheets, as Affected by Blends of Nano-Ligno Cellulose, <b>Sinke Osong, Mid Sweden University, Fibre Science and Communication Network (FSCN)</b>
Scope of Zinc Oxide Nanoparticle Coating in Library and Information Science for Preservation of Paper Based Resrouces.- <b>Suchismita Majumdar Mandal, Sir Gurudas Mahavidyalaya</b>
Swelling Behavior of Wood Pulp Fibres in an Acidic Ionic Liquid (IL)/ Water Systems- <b>Jia Mao, University of Freiburg</b>
Optimization of the Production of Cellulose Nanowhiskers from Wood Pulp Fibers by Mean of an Ionic Liquid/Water System- <b>Jia Mao, University of Freiburg</b>
Investigation of Different Post Treatments of Nanocrystalline Cellulose in Order to Obtain Narrowly Dispersed Rods- <b>Julien Bras, Grenoble INP Pagora - LGP2</b>
Mechanically Strong Modified-NFC/PVA Composites.- <b>Sanna Virtanen, VTT Technical Research Centre of Finland</b>
Influence of residual Lignin and Specific Surface Area of Nanocellulose Fillers on Urea-Formaldehyde Bonding of Wood- <b>Heiko Winter, University of Freiburg</b>
Silver Nanoparticles on Glass and Paperboard Substrate for Surface-Enhanced Raman Scattering (SERS) Sensing- <b>Jarkko J Saarinen, Abo Akademi University</b>
Novel Materials Based on Nanocellulose- <b>Asa Ek, Cellutech</b>
Organosolv Pulping of Norway Spruce for Nanocellulose Production: Kinetic and Mechanistic Study- <b>Hatem Abushammala, University of Freiburg</b>
Micro Fibrillar Cellulose in Foam Formed Papers- <b>Karita Kinnunen, VTT Technical Research Centre of Finland</b>
Tailoring the Mechanical Properties of Tannin-Based Foams with Natural Additives- <b>Ricarda Bohm, University of Freiburg / Freiburg Materials Research Center</b>
Chitosan Derivatives Nanoparticles for Removal of Toxic Metal Ions from Industrial Wastewater- <b>Julius Ratumo Toeri, University of Freiburg</b>
Antifungal Properties of Copper-Carbon Core-Shell Nanoparticles against Forest Pathogens- <b>Yadong Qi, Southern University</b>
Nanotechnology and Implications in Sustainable Development- - <b>Arezki Benfdila, University M. Mammeri Tizi-Ouzou</b>
Nano-Production Function- A Gateway of Nanomarket- <b>Rajashékara Kelasur Shivanna, JSS Mahavidyapeetha</b>
Nanolayer Characterization of Materials using Electron Spectroscopy for Chemical Analysis (ESCA)- <b>Vijay Kumar Kaushik, Parul Institute of Engineering and Technology</b>
Surface and Total Charge Density of Functionalized Nanofibrillar Cellulose Dispersions- <b>Karoliina Junka, Aalto University</b>
Improved Bleachability of Bagasse and Cotton Stalk - <b>Zenat Adeeb Nagieb, National Research Center</b>





### **Preliminary Technical Program**

*(subject to change)*

Molecular Junction- <b>Shu Han Hsu</b> , National Device Laboratory
Reinforcement of Wet Milled Jute Nanofibrils in Poly Lactic Acid (PLA) Films- <b>Vijaykumar Baheti PhD Student</b> , Technical University of Liberec
Mechanical Properties of NFC Suspension and Wet NFC Sheet- <b>Ryu Jaeho</b> , Seoul National University, South Korea
Multifunctional Bamboo Rayon-Copper Nanoparticles Composite Fabric Using Grafting as a Tool- <b>Javed N. Sheikh</b> , Institute of Chemical Technology
Surface Modification of Nanocrystalline Cellulose (NCC) by aQuaternary Ammonium Salt- <b>Alireza Kaboorani</b> , Universite Laval
Cellulose Nanocrystal Reinforced Cementitious Materials- <b>Jeffrey P. Youngblood</b> , Purdue University
Novel Carbohydrate Derived Copoly(lactide) as the Compatibilizer to Improve the Mechanical Performance Bacterial Cellulose Reinforced Polylactide- <b>Koonyang Lee</b> , Imperial College London
Increased Rigidity of Organic Fibres by Coating with Pseudosiderastrea Tayami-Mimetic Nano Structures- <b>Parvez Alam</b> , Abo Akademi University
Microfibrillated Cellulose (MFC) from Triodia Pungens, an Australian Native Grass- <b>Nasim Amiralian</b> , University of Queensland
Microwave-Assisted Upgrading of Bio-Oil Produced from Renewable Resources Using Nanostructured Zeolite Catalyst- <b>Dorin Boldor</b> LSU and LSU AgCenter
A Comprehensive View on Methods for Characterisation of MFC and NFC Structures- <b>Gary Chinga Carrasco</b> , Paper and Fibre Research Institute (PFI)
Nanotechnologies for Renewable Materials – Industrial Innovation, Patents and Standardisation- <b>David Carlander</b> , Nanotechnology Industries Association
Poly-Flavonoids Derivatives as Potential Sustainable bio-Based Building Blocks- <b>Danny E. Garcia-Marrero</b> , University of Freiburg
Self-Assembly of Cellulose Fibrils/SiO <sub>2</sub> Nanoparticles During Synthesis by Gluconacetobacter Bacteria- <b>Robin Zuluaga Gallego</b> , Pontificia Bolivariana University
Rheology of Coating Suspensions and Possibilities for Predicting the Final Dry Structure of Coated Layers- <b>Yana Petkova</b> , Karlstad University
Processing of Nanocomposites Containing Cellulose Nanocrystals, <b>Johan Foster</b> , University of Fribourg

**Thank you to the volunteers for all of your hard work in putting the conference technical program together. We look forward to seeing you at the 2013 TAPPI Nanotechnology Conference!**

#### **Conference Co-Chairs:**

Ulla Forsström VTT Technical Research Centre of Finland  
 Bruce Lyne, Royal Institute of Technology  
 Phil Jones, IMERYS

#### **Theme Leaders:**

Jouko Niinimäki, University of Oulu  
 Lars Wagberg, KTH  
 Jouni Paltakari, Helsinki Univ. of Technology  
 Paul Gatenholm, Chalmers University of Goteborg  
 Jouko Peltonen, Abo Akademi University  
 Martti Toivakka, Abo Akademi University



***Preliminary Technical Program***

*(subject to change)*

Juulia Rouhiainen, Poyry Management Consulting Oy  
World Nieh, USDA Forest Service  
Robert Moon, USDA Forest Service  
Orlando Rojas, North Carolina State & Aalto University