



**International Conference on Nanotechnology  
for Renewable Materials • 5-8 June 2017  
Montreal, Quebec, Canada • [www.tappi.org/17nano](http://www.tappi.org/17nano)**



**TECHNICAL PROGRAM**

Subject to change – please check the conference website for updates.

<b>Monday 5 June 2017</b>		
<b>8:30-11:30</b>	<b>Tour of FPInnovations</b>	
<b>12:30-1:00</b>		Student Committee Lunch 12:30-2:00
<b>1:00-1:30</b>		
<b>1:30-4:00</b>	<b>EHS Workshop</b> 1:30-4:00	<b>ISO TC6 TG1 Meeting</b> 2:00-3:30
<b>4:00-5:30</b>	Session 1: <b>OPENING SESSION AND KEYNOTE</b> Keynote Speaker: <b>Sebastien Corbeil, CelluForce</b> Welcome & Nano Division Overview 4:00-5:30	
<b>5:30-7:00</b>	<b>Welcome Reception</b> 5:30-7:00	
<b>6:30-7:30</b>	<b>Young Professionals Mixer</b> 6:30-7:30	

<b>Tuesday 6 June 2017</b>			
<b>8:30-10:00</b>	<b>Session 2: Industrial Application Testing</b>	<b>Session 3: Self or Directed Assembly of Cellulose Nanocrystals</b>	<b>Session 4: Emulsions</b>
8:32	Application of Cellulose Nanocrystals in Oilfield Gravel Packing Fluid - <i>Valerie Lafitte, Schlumberger</i>	Tailoring the Chiral Nematic Structure of CNC Iridescent Film Using Surface Charge - <i>Hongli Zhu, Northeastern University</i>	Cellulose Nanocrystals with Methylcellulose as a Co-Stabilizer for Pickering Emulsions, Gels, Oil Powders and Aqueous Foams - <i>Emily Cranston, McMaster University</i>
8:54	Filtration and Rheological Properties of Wyoming Clay-Water Based Drilling Fluids with Cellulose Nanocrystals (CNC) - <i>Hafez Balavi, University of Alberta</i>	Controlling the Deposition Pattern of Cellulose Nanocrystals in Drying Droplets Using Internal Flow Fields - <i>Wim Thielemans, KU Leuven</i>	Investigation of the Formation Mechanisms in High-Internal Phase Pickering Emulsions Stabilized by Cellulose Nanocrystals - <i>Wadood Y. Hamad, FPInnovations</i>

9:16	Cellulose Nanofibres for Sulphate Resistance in Cement Based Systems - <i>Vivek Bindiganavile, University of Alberta</i>	Formation of the Liquid Crystalline Phase in Sulfuric Acid Derived Cellulose Nanocrystal Suspensions - <i>Christina Schütz, KU Leuven</i>	Emulsions Stabilized by Cellulose Nanofibrils: Effect of Surfactant and Electrolyte in Phase Transitions - <i>Mariko Ago, Aalto University</i>
9:38	Microfibrillated Cellulose Outside of the Box - <i>Per Svending, FiberLean Technologies Ltd</i>	Effects of Surface Charge Density on the Phase Separation and Rheology of Cellulose Nanocrystal Suspensions - <i>Tiffany Abitbol, The Hebrew University of Jerusalem</i>	Tailoring Cellulose Nanocrystal Surface Chemistry for Emulsion Polymerization Systems - <i>Stephanie Kedzior, McMaster University</i>
<b>10:00-10:30</b>	<b>Break</b>		
<b>10:30-12:00</b>	<b>Session 5: Sustainability in Applications</b>	<b>Session 6: Colloidal Interactions in Cellulose Nanomaterials</b>	<b>Session 7: Foams and Aerogels</b>
10:32	Water Purification by Paper Containing Silver Nanoparticles - <i>Derek Gray, McGill University</i>	Acid Dissociation of Surface Bound Water on Cellulose Nanofibrils Revealed by Adsorption of Calcium Carbonate Nanoparticles Under the Application of Ultralow Shear - <i>Patrick Gane, Omya International AG</i>	Novel Biobased Micro- and Nanomaterials in Porous Foam Formed Structures - <i>Katariina Torvinen, VTT Technical Research Centre of Finland</i>
10:54	Antimicrobial Activity of Liquid Flame Spray (LFS) Deposited Nanoparticles on Natural Fibre Based Substrates - <i>Jarkko J Saarinen, Abo Akademi University</i>	Comparing Approaches to Increasing Adhesion Between Wet Cellulose Surfaces - <i>Robert Pelton, McMaster University</i>	Synthesis, Structures and Applications of Multifunctional Nanocellulose Sponges - <i>Xiaofeng Sui, Donghua University</i>
11:16	Ultrastrong Flexible and Conducting Laminated Bionanocomposites from Cellulose Nanocrystals- <i>Vladimir Tsukruk, Georgia Institute of Technology</i>	Colloidal Interactions Between Nanocellulose and Nanocarbon Materials - <i>Lars Wågberg, KTH Royal Institute of Technology, Fibre and Polymer Technology</i>	Graft Modified CO <sub>2</sub> -Switchable Cellulose Nanocrystals Prepared by Living Radical Polymerization and Their Use as Pickering Emulsifier and Foaming Agents - <i>Joe Glasing, Queen's University</i>
11:38	A Life Cycle Assessment of Automotive Plastics Reinforced with Lignin-Coated Nanocellulose Fibrils - <i>David R. Shonnard, Michigan Technological University</i>	Investigation of Iridescent Behavior of Chiral Nematic Cellulose Nanocrystal Film in Response to Controlled Humidity and Temperature - <i>Nattinee Bumbudsanpharoke, Yonsei University</i>	Cellulose Aerogels with Tunable Hydrophilicity-Hydrophobicity via Facile Self-Assembling, Gelation and Crosslinking - <i>You-Lo Hsieh, University of California, Davis</i>
<b>12:00 - 2:00</b>	<b>Session 8: Keynote Presentation and Lunch</b> <b>Keynote Speaker: Trevor Stuthridge, FPInnovations</b>		

<b>2:00-3:30</b>	<b>Session 9: New &amp; Emerging Infrastructure Applications</b>	<b>Session 10: Fundamentals of Cellulose Nanomaterial-Water Interactions</b>	<b>Session 11: Mechanisms and Fundamentals</b>
2:02	Cellulose Filament/Gypsum Paper Sheets: A Technology Platform to Manufacture Lightweight, Flame Retardant and Strong Gypsum Board Panel - <i>Yuxia Ben, FPInnovations</i>	Development of Cellulose Filament Dispersion and Characterization Methods - <i>Xujun Hua, FPInnovations</i>	Passivation and Control of Protein Affinity of Bioactive Nanocellulose - <i>Orlando Rojas, Aalto University</i>
2:24	Fire Retardant Nanocellulose-Based Coatings - <i>Mikko Tuominen, SP Technical Research Institute of Sweden</i>	Investigation of the Effect of Spray-Drying Processing Parameters and Surface Chemistry on CNC Redispersibility - <i>Carole Fraschini, FPInnovations</i>	Probing Interactions in Nanocellulose Mixtures Using Oscillatory Shear Rheology - <i>Agne Swerin, SP Technical Research Institute of Sweden</i>
2:46	Cellulose-Clay Synergy Effects in Multifunctional Hybrid Composites for Fire Retardancy Applications - <i>Lars Berglund, KTH Royal Institute of Technology</i>	Understanding Cellulose Nanocrystal Interactions and Dispersibility as a Function of Surface Chemistry - <i>Michael Reid, McMaster University</i>	Designer Molecules for One-Step Modification of Cellulosic Materials in Aqueous and Organic Media - <i>Jose Moran-Mirabal, McMaster University</i>
3:08	Nanocellulose Membranes for Water Purification: Processing and Scale Up - <i>Aji P. Mathew, Stockholm University</i>	Characterization of Confined Water in Chiral Cellulose Nanocrystal Films - <i>Jan Obrzut, National Institute of Standards and Technology</i>	Functionalization and Control of Cellulose Nanomaterial Surfaces as Organocatalysts for Acid-Base Catalyzed Reactions - <i>Nathan Ellebracht, Georgia Institute of Technology</i>
<b>3:30-4:00</b>	<b>Break</b>		
<b>4:00-5:30</b>	<b>Session 12: End Users Panel Discussion</b> <b>Moderator: Hamdy Khalil</b>	<b>Session 13: Cellulose Nanomaterial Self-Standing Films</b>	<b>Session 14: Functional Materials</b>
4:02	Panelists Include: <ul style="list-style-type: none"> <li>• Dr. Toivo Kodas, <i>Cabot Corporation</i></li> <li>• Dr. Deborah Mielewski, <i>Ford Motor Company</i></li> <li>• Dr. Maria Dalko-Csiba, <i>L'Oreal</i></li> <li>• Dr. Mohan Panga, <i>Schlumberger</i></li> </ul>	Spray Coating – A Rapid Method for Preparation of Free-Standing Nanocellulose Film - <i>Swambabu Varanasi, Monash University</i>	3D Printing of Textured Cellulose-Based Composites - <i>Michael Hausmann, Swiss Federal Laboratories for Materials Science and Technology</i>
4:22		Use of Chromatogeny for the Development of Hydrophobic MFC Films - <i>David Guerin, Centre Technique du Papier</i>	A Novel One Step Method to Prepare Carboxycellulose Nanofibers from Raw Biomass and Their Applications to Remediation for Heavy Metal Ions - <i>Benjamin Hsiao, Stony Brook University</i>

4:46		Nanocellulose Based Self-Standing Films for Water Purification and Softening - <i>Vanja Kokol, University of Maribor</i>	In-Situ Polymerized Cellulose Nanocrystals (CNC) – Poly(L-lactide) (PLLA) Nanomaterials and Applications in Nanocomposite Processing - <i>Chuanwei Miao, FPIInnovations</i>
5:08		Improvement of the Physical and Mechanical Properties of Lignocellulose Nanofibrils (LCNF) Films Through Hybridization - <i>Mehdi Tajvidi, Rose-Hulman Institute of Technology</i>	Comparison Study of Different Cellulose Nanofiber Suspensions to Stabilize Pigment in Paint Applications - <i>Seema Saini, University Grenoble Alpes - LGP2/Grenoble INP</i>
5:30-7:30	<b>Session 15: Poster Session and Student Poster Competition</b>		

<b>Wednesday 7 June 2017</b>			
7:30 - 8:20	Producers Committee Meeting (Invitation Only)		
8:30-10:00	<b>Session 16: Cellulose Nanomaterials for the Pulp and Paper Industry</b>	<b>Session 17: Photonics and Catalysts</b>	<b>Session 18: Production of Cellulose Nanomaterials</b>
8:32	An Example of the Creation and Use of MFC (Micro-Fibrillated Cellulose) in Today's Specialty Papers Market - <i>Ken Schelling, GL&amp;V USA Inc.</i>	Cellulose Nanocrystals as Non-Innocent Catalyst Supports and Chiral Inducers - <i>Audrey Moores, McGill University</i>	Nanocellulose Derivatives – A Comparative Study Between Wood- and Vegetable-Based Raw Materials - <i>Antti Laukkanen, Betulium</i>
8:54	Forming a Cellulose Based Nanopaper Using XPM- <i>Zoheb Karim, MoRe Research AB</i>	Lignocellulosic Materials as Copper Frames for the Evaluation of the Copper (I) Catalyzed Azide-Alkyne Cycloaddition (CuAAC) - <i>Gloria Oporto, West Virginia University</i>	Production of Lignin Containing Cellulose Nanomaterials from Wood Chips - A Scale-Up Study- <i>J.Y. Zhu, USDA Forest Service, Forest Products Laboratory</i>
9:16	Scale Up of Nanocellulose/ Hybrid Inorganic Films Using a Pilot Web Former - <i>Daniele Oliveira de Castro, MoRe Research</i>	Diameter Varying Electro-Spun CNC Composite Nanofiber Study - <i>Weei-Chih Wang, National Tsinghua University</i>	Production of Cellulose Nanocrystals from Pre-Hydrolyzed Substrates- <i>Eero Kontturi, Aalto University</i>
9:38	Strengthening and Drying of Board Structures Containing Nanocellulose Materials - <i>Jani Lehmon, VTT Technical Research Centre of Finland</i>	Cellulose Nanocrystal Templating of Semiconducting Polymers for Optoelectronic and Photonic Devices - <i>Bailey Risteen, Georgia Institute of Technology</i>	Identifying Glycosyl Hydrolyse Enzymes for Production of Cellulose Nanocrystals - <i>Valdeir Arantes, University of São Paulo</i>

<b>10:00-10:30</b>	<b>Break</b>		
<b>10:30-12:00</b>	<b>Session 19: Functionality via Surface Modification of Cellulose Nanomaterials</b>	<b>Session 20: Printed Electronics and Storage Devices</b>	<b>Session 21: New Products and Processes</b>
10:32	Nanocelluloses Towards New Functions - <i>Olli Ikkala, Aalto University</i>	Cellulose Nanofibrils: A Multifunctional 1D Building Block for Flexible Paper Batteries - <i>Sang-Young Lee, Ulsan National Institute of Science and Technology</i>	Nanocellulose Morphologies Control Through Drying Process - <i>TriDung (TD) Ngo, InnoTechAlberta</i>
10:54	Composite Cholesteric Nanocellulose Films with Enhanced Mechanical Properties - <i>Brandon Vollick, University of Toronto</i>	Sustainable Cellulose-Containing Inks for Printed Electronics on Paper Substrates - <i>Luis Pereira, Nova Id FCT - CENIMAT/I3N</i>	Strategic Development for Pilot Plant Optimization of Cellulose Nanocrystals (CNC) Production - <i>Christophe Danumah, InnoTechAlberta</i>
11:16	Will Silicones Increase the Value of Lignin and Cellulose? - <i>Michael Brook, McMaster University</i>	Functionalized Nanocellulose-Integrated Heterolayered Nanomat Separators: From Renewable Resources to Sustainable Energy Storages - <i>Jung-Hwan Kim, Ulsan National Institute of Science and Technology</i>	An Overview of CNC Manufacturing Cost, Guidelines for Research Opportunities Based on Cost and Financial Risks Analysis – <i>Camilla Abbati de Assis, North Carolina State University</i>
11:38	Superhydrophobic and Slippery Lubricant-Infused CNF Nanocellulose Films by Photoinduced Thiol–Ene Coupling - <i>Jiaqi Guo, Aalto University</i>	Launderable Conductive Fabrics with Nanocellulose Coating - <i>Yunsang Kim, University of Georgia</i>	Feasible Application of Hydrophobicity in Amphiphilic ACC-Nanocellulose Created by Aqueous Counter Collision(ACC)- <i>Tetsuo Kondo, Kyushu University</i>
<b>12:00 - 2:00</b>	<b>Session 22 - Lunch with Presentation by Conference Gold Sponsor <a href="#">CelluForce</a></b>		
<b>2:00-3:30</b>	<b>Session 23: Cellulose Nanomaterial Based-Coatings</b>	<b>Session 24: Tissue Engineering and Implants</b>	<b>Session 25: Sols and Gels</b>
2:02	Improved Performance of Water-Based Inks on Plastic Films with Thin Coatings of Cellulose Nanocrystals (CNC) - <i>Joseph Aspler, FPInnovations</i>	Injectable Cellulose Nanocrystal Hydrogels as a Platform for Functional Tissue Engineering Applications - <i>Kevin De France, McMaster University</i>	Fluorescent, Shear Thinning Hydrogels Formed by Nanocellulose and Graphene Quantum Dots - <i>Amir Khabibullin, University of Toronto</i>
2:24	Strength and Barrier Enhancement of Paperboards Properties with Cellulose Nanofibrils Applied by Blade Coater - <i>Doug Bousfield, University of Maine</i>	CNF Hydrogels for Tissue Engineering: Interactions Between Fibroblasts and CNF with Two Different Surface Chemistries - <i>Kristin Syverud, Paper and Fibre Research Institute</i>	Surfactant Modified Cellulose Nanofibrils for Enhanced Oil Recovery - <i>Trygve D. Jakobsen, Norwegian University of Science and Technology</i>

2:46	Substrate Requirements for Roll-to-Roll Processed Nanocellulose Coatings - <i>Vinay Kumar, Åbo Akademi University</i>	Cross-Linked Cellulose Nanocrystal Aerogels for Bone Scaffolding Applications - <i>Daniel A. Osorio, McMaster University</i>	Investigating Cellulose Nanocrystals (CNC) as Oil Well Cement Additive and Its Mechanisms of Action - <i>Yaman Boluk, University of Alberta</i>
3:08	Characteristics of CNF and PVA Suspension Depending on Mixing Ratio - <i>Hyeonji Park, Seoul National University,</i>	Implantable Nanocomposite Materials - <i>Johan Foster, Virginia Tech</i>	Unique Aspects of the Sol-Gel Transition of TEMPO-CNF/Mixed-Linkage Beta-Glucan Bionanocomposites - <i>Suvi Arola, University of British Columbia</i>
<b>3:30-4:00</b>	<b>Break</b>		
<b>4:00-5:30</b>	<b>Session 26: Packaging</b>	<b>Session 27: Wound Dressings and Drug Delivery</b>	<b>Session 28: Filaments and Threads</b>
4:02	Developing Polypropylene/ Polysaccharide Nanocrystal Laminated Film for Flexible Barrier Packaging - <i>Jinwu Wang, Forest Products Laboratory</i>	Bioactive Functionalization of Plant-Derived Nanocellulose for Advanced Therapeutic Applications - <i>Ramon Weishaupt, Swiss Federal Laboratories for Materials Science and Technology</i>	Spinning a Yarn: Cellulose Fibres Spun from Solution - <i>Stephen Eichhorn, University of Exeter</i>
4:24	Novel In-Situ Precipitation Concept to Prepare Green Barrier Materials - <i>Swambabu Varanasi, Monash University</i>	Cellulose-Based Biosensors for Enzyme Detection - <i>Harry Brumer, University of British Columbia</i>	Filaments of Cellulose Nanofibrils via Hydrogel Spinning - <i>Meri Lundahl, Aalto University</i>
4:46	Nanocellulose Films with Improved Mechanical and Gas Barrier Properties - <i>Christian Aulin, Innventia</i>	Cellulose Nanofibrils Chemical Surface Modification for Monitoring Drug Release in Tissue Engineering - <i>Julien Bras, University Grenoble Alpes - LGP2/Grenoble INP</i>	Fabrication of a Continuous Textile-Like Fibre Yarn from Cellulose Filaments - <i>Annie Dorris, FPInnovations</i>
5:08	Measuring the Oil and Grease Barrier Properties of Microfibrillated Cellulose Coated Paper Using Ultrasonic Signal Variation - <i>Joerg Padberg, Munich University of Applied Sciences</i>	Poly(amidoamine) Dendrimers as a Platform to Obtain Complex and Multifunctional Magnetic Nanoparticle Based Structures - <i>Adriano Boni, Université de Fribourg</i>	Anisotropy Determination During Assembly of Nanocellulose Fibrils into a Gel Thread - <i>Karl Håkansson, Innventia</i>
<b>6:30-10:00</b>	<b>Conference Dinner 6:30-10:00</b>		

<b>Thursday 8 June 2017</b>			
<b>8:30-10:00</b>	<b>Session 29: New Metrology Methods for Cellulose Nanomaterials</b>	<b>Session 30: Updates from Producers</b>	<b>Session 31: Infrastructure</b>
8:32	Characterization of the Effects of Water on CNC-epoxy Composites using Fluorescence Lifetime Imaging Microscopy (FLIM) - <i>Sindhu Seethamraju, NIST</i>	Progress Towards Nanocellulose Commercialization - <i>Kim Nelson, American Process</i>	Lignocellulose Nanofibrils (LCNF) a Viable Low-Cost Alternative to Cellulose Nanofibrils in Binder Applications: Effect on Physico-Mechanical Properties of Resin-Free Medium Density Fiberboards (MDF)- <i>Cherif Diop, University of Maine</i>
8:54	Xyloglucan Adsorption as a Method to Measure Surface Area for Never Dried Cellulose Nanofibers - <i>Carl Moser, KTH Royal institute of Technology</i>	New Transition Metal Catalyzed Oxidative CNC Production Method - <i>Sean McAlpine, Blue Goose Biorefineries</i>	Cellulose Filaments Reinforcement of Wood Fibre Insulation Boards - <i>Yaolin Zhang, FPInnovations</i>
9:16	Fluorescence Methods to Probe CNC Distribution in Polymer Composites - <i>Linda Johnston, National Research Council Canada</i>	Mineral/ Microfibrillated Cellulose Composite Materials: Next Generation Products, New Applications and Product Forms - <i>David Skuse, Fiberlean Technologies</i>	High Performance Cement via Cellulose Nanocrystal Addition - <i>Jeffrey P Youngblood, Purdue University</i>
9:38	Interactions and Layer Properties of Nanocellulose Using Multiparametric Surface Plasmon Resonance Spectroscopy - <i>Annika Jokinen, BioNavis</i>	Europe's First Pilot Facility for Cellulose Nanocrystals (CNC) – <i>Emma Johansson, Processum</i>  Melodea Cellulose Nano Crystals (CNC) Production and Product Development - <i>Shaul Lapidot, Melodea</i>	Cementitious Material Reinforced with Thermomechanical Pulp (TMP) and Nanofibrillated Cellulose (NFC) - <i>Tomo Kakitani, Sumitomo Forestry Co.</i>
<b>10:00-10:30</b>	<b>Break</b>		
<b>10:30-12:00</b>	<b>Session 32: Intrinsic Properties Measurement (CNCs)</b>	<b>Session 33: Workplace Safety: From Research to Practice</b>	<b>Session 34: Composites – Solvent Based Processing</b>
10:32	Crystallinity of Cellulose Nanocrystals by Raman, NMR, and XRD Methods - <i>Umesh Agarwal, USDA FS, Forest Products Laboratory</i>	Occupational Health and Safety Characterization of Several North American Cellulose Nanocrystals - <i>Brian O'Connor, FPInnovations</i>	Biodegradable Thermoplastic Starch (TPS) Nanocomposite with Cellulose Nanofibers from Oil Palm Empty Fruit Bunches (OPEFBs) as Reinforcement Agent - <i>Farah Fahma, Bogor Agricultural University</i>

10:54	Analyzing Process Parameter Interaction on Acid Hydrolysis Production of Cellulose Nanocrystals - <i>Michael Bortner, Virginia Tech</i>	Global Activities of Cellulose Nanomaterial Environmental Health and Safety - Opportunities for Collaboration - <i>Kimberly Ong, Vireo Advisors</i>	Cellulose Nanocrystal/Polymer Nanocomposites for Adhesive Applications - <i>Alexandra Ouzas, University of Ottawa</i>
11:16	Processing-Structure-Property Relationships in Self-Assembled Cellulose Nanocrystal Blends: Effect of Evaporation Rate, Surface Energy and High Aspect Ratio - <i>Bharath Natarajan, National Institute of Standards and Technology</i>	Advances in the Occupational Health and Safety Practices of Nanomaterials - <i>James Ede, Vireo Advisors</i>	Alternatives to Drying and to Low-Solids Processing of Cellulose Nanomaterials - <i>Ronald Sabo, USDA Forest Service, Forest Products Laboratory</i>
11:38	Beyond Buckling: Humidity-Independent Measurement of the Mechanical Properties of Cellulose Nanocrystal Films - <i>Urooj Gill, McMaster University</i>	Establishing the Safety of Cellulose Nanomaterials for Food Related Uses - <i>Jo Anne Shatkin, Vireo Advisors</i>	Morphology and Mechanical Properties Electrospun Polystyrene Fibers Containing Cellulose Nanocrystals (CNC) Modified with Various Functional Groups - <i>Mahsa Kalantari, University of Alberta</i>
<b>12:00-2:00</b>	<b>Session 35: Keynote Presentation and Lunch</b> <b>Keynote Speaker: John Kozij, Canadian Forest Service</b>		

<b>2:00-3:30</b>	<b>Session 36: Quantitative Property Control for Cellulose Nanofibril Production</b>	<b>Session 37: Cellulose Nanomaterial Product Development</b>	<b>Session 38: Composites – Melt &amp; Dry Processing</b>	<b>Session 39: Student Session: Career Roundtable</b>
2:02	Understanding Longitudinal Wood Fiber Ultra-Structure for the Production of Cellulose Nanofibrils Using Disk Milling with Dilute Acid Prehydrolysis - <i>JY Zhu, USDA Forest Service, Forest Products Laboratory</i>	The Nanocellulose Platform Economy – An Emerging Disruptor - <i>Jesse Kautto, Pöyry Management Consulting Oy</i>	Cellulose Nanofibrils Reinforced Polypropylene Filaments for Fused Filament Fabrication: Crystallization Consideration - <i>Lu Wang, University of Maine</i>	<i>Hosted by the Nano Student Committee</i>  <i>Participants to be Announced</i>
2:24	What is the Difference Between Different Cellulose Nanofibrils? The Quality Index- <i>Johanna Desmaisons, LGP2</i>	Challenges for the Commercialization of Cellulose Nanofibers (CNFs) - <i>Makoto Arai, Nippon Paper Industries Co., Ltd.</i>	Reactive Extrusion of Hydrophobic Polymer with Nanocellulose Filler for Improved Mechanical Properties - <i>Kevin Holder, Essentium Materials</i>	



2:46	Optimization of the Reaction Conditions of TEMPO-Mediated Oxidation and the Fibrillation Process for the Production of Nanofibrillated Cellulose from Rice Hulls - <i>Guido de Titto, National Institute of Industrial Technology</i>	Nanocellulose Commercialization: An End User Perspective - <i>Jack Miller, Market-Intell LLC</i>	Processing Strategies for Incorporating Cellulose Nanocrystals in a Commercially Available Semicrystalline Thermoplastic - <i>Matthew Orr, Georgia Institute of Technology</i>
3:08	Fluorogenically Modified Cellulose Nanofibrils - <i>Jeremiah Woodcock, NIST</i>	Risk Assessment of Polymer Composites Containing Cellulose Nanofibrils (CNF) - Considerations of Industrial Production - <i>Heli Kangas, VTT Technical Research Centre of Finland Ltd.</i>	Development of the Continuous Production Process "Kyoto Process" of CNF Reinforced Plastics - <i>Hiroyuki Yano, Kyoto University</i>
<b>3:30-4:00</b>	<b>Break</b>		

<b>4:00-5:30</b>	<b>Session 40: Production and Characterization of Cellulose Nanomaterials</b>	<b>Session 41: Standards and International/Commercial Measurement Needs</b>	<b>Session 42: Composites – Reactive Processing</b>
4:02	Indigenous Bacterial Nanocellulose - <i>Lola Vars, Oregon State University</i>	Standards for Measurement and Specification of Cellulose Nanomaterials - <i>Brian Haydon, CSA Group</i>	Reducing Water Absorption in Cellulose Nanocrystal – Epoxy Composites - <i>Douglas Fox, American University</i>
4:24		Survey of Measurement Methods for CNCs - <i>Jeffrey W. Gilman, NIST</i>	Epoxies Can Solve Moisture Problems in Nanocellulose Materials - <i>Farhan Ansari, KTH Royal Institute of Technology</i>
4:46	Extraction and Characterization of Nanocellulose from Several Agro-Industrial Residues - <i>Guillermo Jimenez, Laboratory of Polymers (POLIUNA)</i>	On the Importance of Size Characterisation of Commercial Grades of Microfibrillated Cellulose - <i>Per A. Larsson, KTH Royal Institute of Technology</i>	Synthesis and Characterization of CO <sub>2</sub> -Responsive Cellulose Nanocrystals via Living Radical Polymerization - <i>Omar Garcia-Valdez, Queen's University</i>
5:08	Cellulose Nanofibril (CNF) Metrology - <i>Mahyar Mazloumi, National Research Council of Canada</i>	Development of an Online Analyzer for Characterizing Cellulose Filaments - <i>Natalie Pagé, FPInnovations</i>	Effect of Nanocellulose Type and Surface Functionalization on Nanocellulose Coated Glass Fiber Reinforced Polyester Composite - <i>Joyanta Goswami, Georgia Institute of Technology</i>

**Friday  
9 June 2017**

**9:00 -12:00**

Producers Committee Meeting (Invitation Only)