



TECHNICAL PROGRAM

As of 4/14/18 - Subject to change – please check the conference website for updates.

Monday 11 June 2018	
9:00-10:30	Forest Products Laboratory Tour #1
9:00 – 12:00	Practical Safety Strategies for Bio/Nano Technology Commercialization Workshop
12:00-1:30	Student Committee Lunch
1:00 – 4:00	CNM Characterization Workshop – Primary Characterization
2:00-3:30	Forest Products Laboratory Tour #2
4:00-5:30	Session 1: OPENING SESSION AND KEYNOTE Keynote Speaker: Alper Kiziltas, Ph.D. Ford Motor Company Welcome & Nano Division Overview
5:30-7:00	Welcome Reception 5:30-7:00
6:30-7:30	Young Professionals Mixer 6:30-7:30

Tuesday 12 June 2018			
8:30- 10:00	Session 2: Particle Size Measurement	Session 3: Nanolignin and Ligno-Nanocellulose: Production and Application Prospects	Session 4: Responsive & Functional Materials I
	Proof-of-Concept of Gel Fractionation of Bleached Eucalyptus Kraft MFC Braz Demuner, Fibria Cellulose	Bio-nanomaterials Development: Linking R&D Activities and Industrialization Of Lignin Micro - and Nanoparticles Camilla Abbati de Assis, North Carolina State University	Cellulose Nanomaterial in High Performance Water-based Drilling Fluid Qinglin Wu, Louisiana State University
	Determining Nanocellulose Particle Size — A Comparative Study Valdeir Arantes, Lorena School of Engineering, University of São Paulo	Exploring the Interactions That Drive the Assembly of Cellulose Nanofibers Produced from Australian Spinifex Arid Grass Katarzyna Kemp, University of Queensland, Australian Institute for Bioengineering and Nanotechnology	Encapsulation of Phase Change Materials in Cellulose Nanocrystals-Reinforced Poly(urea-urethane) Microcapsules and Their Incorporation in Asphalt for Snow and Ice Melting, Carlos Martinez, Purdue University
	Characterization Of Concentrated Aqueous CNC Suspensions By Static Multiple Light Scattering: Equivalent Particle Size And Suspension Stability Zygmunt Jakubek, National Research Council of Canada	Microfibrillated Cellulose Production from Various Lignocellulosic Fines, Thilina Gunawardhana, Monash University	Sensing water diffusion and its effects in CNC-epoxy composites using Aquafuor Sindhu Seethamraju, National Institute of Standards and Technology
	Metrology Challenges for Characterization of Cellulose Nanocrystals Linda Johnston, National Research Council Canada	Anisotropic Cellulose Nanofibers/Lignin Foams For Thermal Insulation Nathalie Lavoine, Stockholm University	Unusual approaches to cellulose nanocrystal modification: allomorph transition and end-to-end connections Eero Kontturi, Aalto University
10:00- 10:30	Break		
10:30- 12:00	Session 5: 3D Printing & Coatings	Session 6: Industrial Applications	Session 7: Foams & Gels I

	3D Printed Poly(Lactic-Acid)/Grafted Cellulose Nanofiber Composites with Enhanced Mechanical Properties Ju Dong , Louisiana State University	Towards Enhanced Durability And Sustainable Construction Through Tuned Cellulose Nanofibres Vivek Bindiganavile , University of Alberta	Towards Nano-enabled Bio-Based Solutions by Foam Technologies Katariina Torvinen , VTT Technical Research Centre of Finland Ltd.
	Towards 3D printing of ABS-cellulose nanocrystal composite materials Matthew Hartings , American University	Cellulose Filament Reinforced Cement Board Xiaolin Cai , FPIInnovations	Ultralight Weight Kapok Fiber Derived Aerogels for Oil Spill Cleaning Indu Chauhan , Indian Institute of Technology Delhi
	Improved Wood Coatings via CNC Addition Jeffrey Youngblood , Purdue University	The potential of TEMPO-oxidized cellulose nanofibrils as a rheology modifier in food systems Ragnhild Aaen , NTNU	Control of Porous Structure of Cellulose Aerogel Made from Nanofibrillated Cellulose Chen Gong , China National Pulp and Paper Research Institute
	Nanocellulose-modified Oil-Based Wood Coatings Stefan Veigel , BOKU — University of Natural Resources and Life Sciences Vienna	Hygiene product application utilizing cellulose based absorbent material made by tempo oxidation Jani Lehmonen , VTT Technical Research Centre of Finland Ltd.	Plasticized Nanocellulose Gel for Biomedical and Food Packaging Applications Suraj Sharma , University of Georgia
12:00 - 2:00	Session 8: Lunch with Presentation Sponsored by Celluforce Inc. Speaker: Yinyong Li Treaty, LLC.		
2:00-3:30	Session 9: Industrial Production 1	Session 10: Transport Properties of Nanocellulose-based Films and Membranes	Session 11: Tissue Engineering and Implants
	Control of Membrane Processes During the Production of Cellulose Nanomaterials Emily Sharata , Membrane Specialists	Nanocellulose Functionalization Using Silsesquioxane Particles Sol Gel Formation In Aqueous Conditions and Their Application for Superhydrophobic Coated Paper Julien BRAS , Univ. Grenoble Alpes, Grenoble INP, LGP2	3D Printing Of Nanocellulose Scaffolds With Tailored Mechanical Strength Towards Medical Applications Xiaoju Wang , Åbo Akademi University
	CNC Production at Dramatically Lower Acid Ratios Joel Kelly , NORAM / BC Research	Gas Responsive CNC Membrane for Precise Separation of Nanomaterials Farhad Farnia , Universite de Sherbrooke	Mechanically Adaptive Bio-Nanocomposites for Implantable Sensing Johan Foster , Virginia Tech

	Cellulose Nano Crystals Production and Development of Innovative Products Shaul Lapidot, Melodea, Ltd.	Nanocellulose-based Membrane With Antifouling Properties Prepared by Grafting of Zwitterionic Polymers Luis Alexandro Valencia Lopez, Stockholm University	Nanocellulose reinforced poly(propylene fumarate) composites John Simonsen, Oregon State University
	Cost Effective Production of CNC at InnoTech Alberta - Christophe Danumah, InnoTech Alberta Inc.	Study of Structure Dependence Of Barrier Properties In Nanofibrilated Cellulose Films for Intelligent Food Packaging Applications - Vadim Kislitsin, University of Alberta	New Production Strategies for Tissue Scaffolds Containing Cellulose Nanocrystals and Their Fate in Vivo Emily Cranston, McMaster University
3:30-4:00	Break		
4:00-5:30	Session 12 End User Panel	Session 13: Tissue Engineering, Implants and Drug Delivery	
		Shape-memory 3D Printable Hydrogels with Anti-microbial Properties Gilberto Siqueira, Applied Wood Materials Lab. - Empa	
		Cellulose-Based Lateral Flow Devices for Low-Cost Point-of-Care Blood Coagulation Monitoring Andrew Steckl, University of Cincinnati	
		Facile Preparation of Lignin Nanoparticles in Near-Neutral Aqueous Solution and Excellent Performance for Drug Delivery - Liheng Chen, Jinan University	
		Vitamin B Complex Encapsulated On Baterial Nanocellulose: A Model Study On Adsorption and Controlled Delivery System Diego Gomez-Maldonado, Auburn University	
5:30-7:30	Session 14: Poster Session and Student Poster Competition		

Wednesday 13 June 2018			
8:30- 10:00	Session 15: Automotive & Other Manufacturing Processing	Session 16: Processing and Applications of Nanocellulose-based Coatings	Session 17: Responsive & Functional Materials II
	Role of Nanocellulose in Glass Fiber-Epoxy Interphase Joyanta Goswami , Georgia Institute of Technology	Chitin and Cellulose Spray Coated Nanomaterials for Sustainable Barrier Applications Chinmay Satam , Georgia Institute of Technology	Mechanical Behavior of Polymer Conjugated Cellulose Nanocrystal Films Sinan Ketten , Northwestern University
	High performance nanocellulose – polyamides composites Fabiola Vilaseca , University of Girona	Roll-to-roll Fabrication of Transparent Cellulose Nanocrystal Coatings on a Flexible Substrate with Controlled Anisotropy Reaz Howdhury , Purdue University	Development of Cellulose Fibre Yarns For Hormone Capture From Aqueous Matrices Hannes Orelma , VTT Technical Research Centre of Finland
	Toward the Applications of CNFs Materials for Automotive Parts Hiroyuki Yano , Kyoto University	Coatability of CNC Suspensions in a High-throughput Continuous Process Rajesh Koppolu , Åbo Akademi University	Solving the Problem of Making Nanocomposites of Hydrophilic and Hydrophobic Polymers by Gas Switchable CNC Farhad Farnia , Universite de Sherbrooke
	Towards CNC-Enabled Lightweighting of Automotive Components Craig Clemons , USDA Forest Products Laboratory	Comparison of Coating Methods for the Application of Cellulose Nanofibrils (CNF) as Coating on Paperboard Doug Bousfield , University of Maine	Novel Tunable Amphiphilic to Hydrophobic Nanocelluloses Via a Multi-Functional Reagent You-Lo Hsieh , University of California, Davis
10:00- 10:30	Break		
10:30- 12:00	Session 18: Melt & Dry Processing I	Session 19: Self-and Directed Assembly of Nanocellulose	Session 20: Foams & Gels II
	Cellulose Nanocrystal – Thermoplastic Composites via Melt-Blending Douglas Fox , American University	Confinement Driven Organization of CNF and CNC Gustav Nyström , Empa	Fabrication and Functionalization of Advanced Nanomaterials with 3D-Network Structure from Cellulose and Whole Biomass using LiBr Molten Salt Hydrate System Yang Liao , UW Madison

	Dual approach to Driving Crystallinity-Based Performance In Polylactic Acid Materials: Cellulose Nanomaterials Delivered By Polyethylene Glycol Caitlyn Clarkson, Purdue University	Optimizing the Structure and Mechanical Properties of Chiral-Nematic Cellulose Scaffolds for Tough Bioinspired Polymer Composites Bharath Natarajan, National Institute of Standards and Technology	Ultralight, Highly Thermal Insulating and Fire Resistant Aerogel by Encapsulating Cellulose Nanofiber with Two-dimensional MoS ₂ Hongli Zhu, Northeastern University
	Embedding Cellulose Nanocrystals (CNCs) into Polymer Particles for Enhanced Processing Priya Venkatraman, Virginia Tech	Nanocellulose Biofabrication: A Versatile Toolbox for Self-assembled Functional 3D Structures Orlando Rojas, Aalto University	Cellulose Nanocomposites: Vacuum Infusion of Cellulose Nanofiber Preforms with Bio-Based Epoxy Kristiina Oksman, University of Oulu
	Improving Compatibility and Compounding of Cellulose Nanocrystals in Polymer Composites Ronald Sabo, USDA Forest Service, Forest Products Laboratory	Engineering the Self-assembly of Cellulose Nanocrystals on Complex Topography to Obtain Advanced Hybrid Materials Blaise Tardy, Aalto University	Cellulose Nanofibrils Aerogel: Development and Application In Water Treatment Feng Jiang, The University of British Columbia
12:00 - 2:00	Session 21 - Lunch with Presentation Sponsored by NanoCellulose Forum Present situation and future prospects of Nanocellulose R&D in Japan Speaker: Akira Isogai University of Tokyo		
2:00-3:30	Session 22: Photonics and Optical Applications	Session 23: Nanocellulose Based Composites	Session 24: Nanocellulose For Enhancing Paper
	Circularly Polarized Light Detection on Transistors using Cellulose Photonic Dielectrics Luis Pereira, CENIMAT/13N and CEMOP/UNINOVA	Controlling cellulose nanocrystal location within latex systems by tuning interfacial compatibility Elina Niinivaara, McMaster University	The Benefits of Using MFC (Microfibrillated Cellulose) in Coated Papers David Cowles, GL&V USA Inc.
	“Patchy” Modification of Cellulose Nanocrystals with a Thermoresponsive Polymer for a Switchable Liquid Crystal Bailey Risteen, Georgia Institute of Technology	Dry-spun neat cellulose nanofibril filaments: effect of process variables and additives on filament properties, Shokoofeh Ghasemi, University of Maine	Enhancing Coating Holdout with Cellulosic MicroFibrils Donna Johnson, University of Maine Process Development Center
	UV-blocking hybrid nanocellulose films containing ceria and silica nanoparticles Tiffany Abitbol, RISE Research Institutes of Sweden	Singly Dispersed Gold Nanoshell-Bearing Cellulose Nanocrystals with Tailorable Plasmon Resonance Nikolay Semenikhin, Georgia Institute of Technology	Life Cycle Assessment Of Packaging Containing Microfibrillated Cellulose From Spruce Ellen Soldal, Ostfold Research

	Electrophoretic Deposition of CNC-Containing Photonic and Semi-Conductive Films Wadood Hamad , <i>FPIInnovations</i>	Surface Modifications of Nanocellulose for Assembly of a Stable Organogel Support for Drug Crystallization Manali Banerjee , <i>Georgia Institute of Technology</i>	Industry Adopted Production of Nanocellulosic Material Optimized for Increased Strength of Packaging and Printing Paper Anna Svedberg , <i>MoRe Research</i>
3:30-4:00	Break		
4:00-5:30	Session 25: Flexible Electronics	Session 26: Characterization Methods	Session 27: Processing and Properties of Nanocellulose-based Films for Packaging Application
	Cellulose Nanocrystals (CNC) Derived Mo ₂ C@Sulfur-doped Carbon Aerogels for Hydrogen Evolution Yun Lu , <i>Research Institute of Wood Industry Chinese Academy of Forestry</i>	Investigating the Influence of Fibril Size on Microfibrillated Cellulose (MFC) Suspension Morphology Under Flow: A Rheological Approach Michel Schenker , <i>FiberLean Technologies Ltd.</i>	Functional Nanofibril Membranes and Strong Wet-Spun CNF Fibers Yulin Deng , <i>Georgia Institute of Technology</i>
	Room Temperature Fabrication of High-Performance Nanopaper Thin-Film Transistors with Stacked IGZO/Al ₂ O ₃ Bilayer Semiconductors Zhiqiang Fang , <i>South China University of Technology</i>	Comparison of supramolecular structures of CNCs of different origins Umesh Agarwal , <i>USDA FS Forest Products Laboratory</i>	All-cellulosic Packaging From Cellulose Nanofibrils And Fatty Acid Esters Heli Kangas , <i>VTT Technical Research Centre of Finland Ltd.</i>
	Launderable Conductive Fabrics with Nanocellulose Coating Yunsang Kim , <i>Mississippi State University</i>	Chemically Labeling of Cellulose For Quantitative Tracking Jeremiah Woodcock , <i>NIST</i>	Hybrid Nanopaper of Cellulose Nanofibrils and PET Microfibers with High Tear Resistance Emil Gustafsson , <i>Université Grenoble Alpes, LGP2</i>
	AlGaN/GaN HEMT Based RF Power Amplifier on CNF Substrate for Environment-Friendly Flexible Electronics Huilong Zang , <i>University of Wisconsin-Madison</i>	Rheological Characterization and Testing Standards for Nanocellulose Materials Jianshan Liao , <i>Renewable Bioproducts Institute, Georgia Institute of Technology</i>	Structure-property Relationships In Physical, Mechanical, and Barrier Properties of Hybrid Cellulose Nanofibril/Bentonite Films For Packaging Applications Mehdi Tajvidi , <i>School of Forest Resources, University of Maine</i>
6:30-10:00	Conference Dinner 6:30-10:00		

Thursday 14 June 2018			
8:30- 10:00	Session 28: Safety in Applications	Session 29: Applications of Nanocellulose/Inorganic Composites	Session 30: Emulsions & Colloids
	What Do We Know About the Safety of Cellulose Nanomaterials: Environmental Health and Safety Roadmap, knowledgebase and uncertainties Jo Anne Shatkin, Vireo Advisors, LLC	Mass Production of Few-layer Boron Nitride/Nanofibrillated Cellulose Hybrid Membranes With High Thermal Conductivity Through One-step Exfoliation and Dispersion Qingye Li, Polymer Research Institute of Sichuan University	Medium and High Internal Phase Oil-in-Water Pickering Emulsions Stabilized by Cellulose Filaments Chuanwei Miao, FPInnovations
	Toxicological Evaluation of Nanocellulose in Experimental Models of Occupational Respiratory Exposure Jenny Roberts, NIOSH	Modification of Cellulose Nanocrystals (CNC) for Fire Retardant Applications TriDung(TD) Ngo, InnoTech Alberta	Surprising Adhesive Property Modifications Using Cellulose Nanocrystals Marc Dube, University of Ottawa
	Comprehensive Physicochemical Characterization of Novel Cellulose Materials: Challenges and Opportunities for Environmental Health Christie Sayes, Baylor University	Processing and Performance of Clay-Nanocellulose Hybrids Lars Berglund, KTH Royal Inst of Technology	Tuned Multifunctional Cellulose Nanocrystal Acid-Base Cooperative Organocatalysts For Upgrading Biomass-Derived Platform Molecules Nathan Ellebracht, Georgia Institute of Technology
	An Update on the Science of Demonstrating the Safety of Cellulose Nanomaterials for Food Related Uses James Ede, Vireo Advisors, LLC	Retardation Effects of Cellulose Nanocrystals (CNCs) in Portland Cement Pastes Francisco Montes, Purdue University	Rapid Stability Analyses of Microfibrillated Cellulose Christelle Tisserand, Formulaction
10:00- 10:30	Break		
10:30- 12:00	Session 31: Industrial Production II	Session 32: Solvent Based Processing	Session 33: Foams & Gels III
	Mineral/microfibrillated Cellulose Composite Materials: High Performance Products, High Solids Product Forms and Applications David Skuse, FiberLean Technologies Limited	Counterion Design Of TEMPO-Nanocellulose Used as Filler to Improve Properties of Hydrogenated Acrylonitrile-Butadiene Matrix Akira Isogai, The University of Tokyo	Novel method to produce cellulosic lightweight materials Camila Alves Rezende, University of Campinas

Scaling up the CNC Production: Optimizing Cellulose Degradation with Gaseous HCl Timo Pääkkönen, Aalto University	Effect of Cellulose Nanofibril Addition On Gel Spinning of Continuous Polyacrylonitrile Fiber, and Their Corresponding Properties Jeffrey Luo, Georgia Institute of Technology	Nanocellulose aerogels and air filters Junji Nemoto, Hokuetsu Kishu Paper
Phosphorylated cellulose nanofibers: effect of concentration and phosphorous salt, Fleur Rol, Univ. Grenoble Alpes, CNRS, Grenoble INP	Acrylic-CNC Composites Formed by CNC Functionalization with Acryloyl Isocyanate and In Situ Copolymerization Carson Meredith, Georgia Institute of Technology	Strategies for functionalizing cellulose nanofibrils and producing active aerogels for food packaging, Caio Otoni, University of Campinas (Unicamp)
Using Solid Organic Acids for Sustainable, Economic, and Tailored Production of Cellulose Nanomaterials J. Y. Zhu, USDA Forest Products Lab	Nanocellulose in Formable, Strong and Lightweight Structures For Interior Construction Vesa Kunnari, VTT Technical Research Centre of Finland Ltd.	Tailoring the Interactions Between Aminosilane and Cellulose Nanofibrils for the Processing and Drying of Hybrid Siliceous Foams Korneliya Gordeyeva, Stockholm University

12:00-2:00 **Session 34: Keynote Presentation and Lunch**
Keynote Speaker: Michael Goergen
U.S. Endowment for Forestry & Communities, Inc.

	Session 35: LCA Manufacturing, Life Cycle & Product Safety	Session 36: Adhesive and Bonding Properties of Nanocellulose	Session 37: Films and Suspension Properties	Session 38: Student Session: Career Roundtable
2:00-3:30	Microfibrillated Cellulose in Products: Calculation of Environmental Costs and Benefits using Life Cycle Assessment Ingunn Saur Modahl, Ostfold Research	Development of Resin Free Filters Using Cellulose Nanofibres Aysu Onur, Monash University	Characteristics of TEMPO-oxidized cellulose nanofiber/water dispersions and their applications Yohsuke Goi, DKS Co. Ltd., the University of Tokyo	
	Microfibrillated Cellulose Ecotoxicological Effects To The Final Treated Industrial Effluent of A Pulp Mill Fernando Aquinoga Mello, Fibria Celulose S.A.	Binderless Cellulose Filament-Based Product Made by Compression Molding Natalie Pagé, FPInnovations	Fractionation of Cellulose Nanocrystal Reference Material by Asymmetric Flow Field Flow Fractionation (A4F), Maohui Chen, National Research Council Canada	
	Cellulose Nanomaterials in Products - Risk Assessment According to European Commission's Guideline	Cellulose Nanofibrils-Bonded Particleboards: Production, Property Evaluation and Dewatering Process Assessment	Modified Cellulose Nanocrystal Production Routes for Increased Performance of Aqueous Suspensions at High Temperatures	

	Heli Kangas , VTT Technical Research Centre of Finland Ltd.	Ezatollah Amini , University of Maine	Oriana Vanderfleet , McMaster University
	Overview of NIOSH Field Studies for the Assessment and Control of Nanocellulose Materials Kevin Dunn , NIOSH	Enhancement of the Physical And Mechanical Properties of Mycelium- Bonded Composite Panels by Cellulose Nanofibrils Wenjing Sun , University of Maine	Spray Drying of Cellulose Nanocrystals: Dried Granular Particle Morphology and Redispersion in Aqueous Solutions Yussef Esparza , Department of Civil and Environmental Engineering University of Alberta
3:30-4:00	Break		
4:00-5:30	Session 39: Energy Storage Applications	Session 40: Functional Materials	Session 41: Characterization and Quantification of Cellulose Nanomaterials
	Structure and Electrochemical Performance of Cellulose Nanocrystal Derived Carbon Anodes for Lithium and Sodium Batteries Kyungho Kim , Purdue University	Fabrication and Characterization of All- Cellulose Composite Membrane for Simultaneous Oil/Water Separation and Water Purification Chenghong Ao , State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute at Sichuan University	Meeting Global Regulatory Requirements: Overview of Nanomaterial Safety Testing Kimberly Ong , Vireo Advisors
	Heavy Metal-Free Tannin from Bark for Sustainable Energy Storage Hongyu Zhu , Northeastern University	Cellulose Nanocrystal (CNCs) Coatings— A Pathway for Enhancement of Barrier Properties of Polymers, MD Nuruddin , Purdue University	Investigation into Low Level Quantification Techniques for Cellulose Nanocrystals (CNC) in Aqueous Media Brian O'Connor , FPInnovations
	Nanocrystalline Cellulose Based Electroactive Polymer Maobing Tu , University of Cincinnati,	Effect of Surface Hydrophobicity to Antibacterial Activity Of Nanocellulose-Based Material with Quaternary Group Shiyu Fu , South China University of Technology	The Effect of Pretreatment on Key Properties of Cellulose Nanofibers from Hybrid Aspen Simon Jonasson , Luleå University of Technology
	Flexible Supercapacitors from Nanocellulose Wei Zhang , State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute at Sichuan University	Preparation of Polypropylene Nanocomposites with Amphiphilic Janus ACC- Nanocellulose Created by Aqueous Counter Collision Tetsuo Kondo , Kyushu University	Cellulose Nanocrystals from Flax Shives: Accessibility of the Hydroxyl Groups, Crystallite Shapes and Three-Dimensional Arrangement M. Jonathan Leboucher , Normandie Univ/CNRS

Friday 15 June 2018	
9:00 -12:00	Producers Committee Meeting (Invitation Only)