



TECHNICAL PROGRAM

As of 4-1-19 - Subject to change – please check the conference app for updates.

Monday 3 June 2019	
9:00 - 10:00	TAPPI Welcome & Keynote <i>Convention Hall A</i> Mr. Masafumi Yamasaki, Nippon Paper Industries, Co., Ltd., Vice President
10:00 – 10:30	Break <i>Convention Hall B</i>
10:30 – 11:15	Keynote <i>Convention Hall A</i> Overview of Canada – Professor Emily Cranston, University of British Columbia
11:15 – 12:00	Keynote <i>Convention Hall A</i> Overview of Europe – Professor Lars Berglund, KTH Royal Institute of Technology
12:00 - 13:30	Lunch Provided <i>Convention Hall B</i>
13:30 – 14:15	Keynote <i>Convention Hall A</i> Overview of US – Dr. Alan Rudie, USDA Forest Product Laboratory
14:15 – 15:00	Keynote <i>Convention Hall A</i> Overview of China - Professor Dr. Yong Huang, Technical Institute of Physics and Chinese Academy of Sciences
15:00 - 15:30	Break <i>Convention Hall B</i>
15:30 – 16:15	TAPPI Gold Sponsor Speaker
16:15 – 17:00	Keynote <i>Convention Hall A</i> Overview of Japan, Professor Akira Isogai, University of Tokyo
17:00 - 18:30	Welcome Reception <i>Convention Hall B</i>
18:30 - 20:00	Young Professionals Mixer <i>Convention Hall A</i>

Abbreviation Key:

CNF = Cellulose nanofibers

CNC – Cellulose nanocrystals

CNM = Cellulose nanomaterials

Tuesday 4 June 2019			
8:30 – 10:00	Session 2: Automotive Processing	Session 3: Emulsions, Gels and Foams I	Session 4: Production of CNFs
8:32	CNF Reinforced Thermoplastic Resins for Lightweight Parts - Takeshi SEMBA , Kyoto Municipal Institute of Industrial Technology and Culture	The Tunability of Functional Pickering Emulsions Using Cellulose Ethers and CNCs - Jing Guo , DuPont Nutrition and Health	Mineral/ Microfibrillated Cellulose Composite Materials: Recycled Fibres, Engineered Minerals and New Product Forms - David Skuse , FiberLean Technologies Limited
8:54	Road to the Automotive Parts Using CNFs Materials – Hiroyuki Yano , RISH, Kyoto University	Robust Shape Memory Nanocellulose-Based Aerogels Decorated with Silver Nanoparticles for Dye Discoloration – Weihua Zhang , ÅBO Akademi University	New High Solid Content CNFs Production by Twin Screw Extrusion Optimization - Julien Bras , Grenoble INP
9:16	Unprecedented Ultrahigh Expansion Injection-Molded Polypropylene Foams with Hydrophobic-Modified CNFs – Masahiro Ohshima , Kyoto University	Cost-Effective and Functional Emulsions Stabilized with Renewable Particles – Orlando Rojas , Aalto University	Combination of Mechanical Treatments to Optimize CNF Production and Understand the Role of Cumulated Strain on Nanofibrillation for Industrial Production - Gabriel Banvillet , Arjowiggins Creative Papers
9:38	Development of Lightweight Foamed Plastics with High Mechanical Properties by Using Hydrophobic Modified CNF and Controlling Cell Morphologies – Akihiro Ito , Kyoto Municipal Institute of Industrial Technology and Culture	New Applications of Cross-Linked CNC Aerogels – Energy Production/Storage Devices, Sorbents, Drug Delivery and Bone Implants – Emily Cranston , University of British Columbia	Steam Pretreatment Enhancing Productivity of CNFs from Oil Palm Biomass - Hidayah Ariffin , Universiti Putra Malaysia
10:00 - 10:30	Break <i>Convention Hall B</i>		
10:00 – 16:00	Nanocellulose Exhibition in TAPPI Nano <i>Convention Hall B</i>		

10:30 - 12:00	Session 5: New Emerging Applications	Session 6: Plant Based Polymer Composites	Session 7: Flexible Bio-Electronics
10:32	Cellulose Biohybrid Foams – Processing, Properties and Applications - Gustav Nyström, EMPA	High-Performanced Bioplastic Blends as Matrix for Renewable Nanomaterials - Kunyu Zhang, Tianjin University	Substrates Based on CNFs for Printed Electronics and Optics – Katariina Torvinen, VTT Technical Research Centre of Finland Ltd.
10:54	The Role of Chemistry in High Performance Cement via CNC Addition - Jeffrey Youngblood, Purdue University	Preparation and Pore Regulation of Carboxyethylated Micro-/Nano-Cellulose Films - JingHuan Chen, China National Pulp and Paper Research Institute Co., Ltd.	Nanocellulose-Based Materials for the Solar Cell, Wearable Sensors and Supercapacitors - Feng Xu, Beijing Forestry University
11:16	CNCs for Foam Stability in Cellular Concrete - Vivek Bindiganavile, University of Alberta	Stimuli-Responsive Nanocomposites Derived from Plant Oil and CNCs - Zhongkai Wang, Anhui Agricultural University	Highly Transparent Cellulose Films for Electronic Applications – Zhiqiang Fang, South China University of Technology
11:38	Edible Bio-Based Oleofilms from Nanocellulose-Stabilized Pickering Emulsions for Active Edible Barriers - Luis Alexandro Valencia Lopez, Stockholm University	Robust and Non-Hazardous Porous Constructs Enabled by Compositing Nanoparticles with Nanocelluloses - Bruno Mattos, Aalto University	Cellulose Based Functional Materials in Electrical and Electrochemical Flexible Devices – Luis Pereira, CENIMAT/I3N
12:00 – 13:30	Lunch on Your Own		
13:30 – 16:30	Workshops Cellulose Nanomaterial Safety: Building a Bridge from Theory to Practice Workshop <i>Room 202</i> CNM Characterization Workshop: Primary Characterization Workshop <i>Room 203</i>		
17:00- 18:30	Session 8: Poster Session and Student Poster Competition <i>Convention Hall B</i>		

Wednesday 5 June 2019			
7:30 – 8:30	NANO Research Committee Meeting (Invitation Only) <i>Room 203</i>		
8:30 - 10:00	Session 9: Emulsions, Gels and Foams II	Session 10: Measurement of Surface Interactions	Session 11: Production of Rod-Shaped CNMs
8:32	Rheological Characterization of Medium and High Internal Phase Oil-in-Water Pickering Emulsions Stabilized with CNCs – Chuanwei Miao , <i>FPIInnovations</i>	Hydrophobization of TEMPO Oxidized CNF – Shinichi Onogi , <i>Nippo Paper Industries Co., Ltd.</i>	Developments in CNC Commercialization - Al-Pac's Experience – Geoff Clarke , <i>Alberta-Pacific Forest Industries Inc.</i>
8:54	Dual Functions of CNF in Oil-in-Water Emulsion: Pickering Emulsifier and a Unique Dispersion Stabilizer – Yohsuke Goi , <i>DKS Co. Ltd.</i>	Atomic Force Microscopy as a Tool to Probe Nanocellulose Surface: Possibilities and Challenges – Aji Mathew , <i>Stockholm University</i>	Continuous Compressed Cellulose CNC Reactor Demonstration at Low Acid Ratios – James Lockhart , <i>NORAM Engineering and BC Research</i>
9:16	Nanocellulose-Templated Biocompatible and Self-Healing Hydrogel Conductors - Jingquan Han , <i>Nanjing Forestry University</i>	Dynamic Analysis of Poly (ϵ -Caprolactone) in Cellulose/Poly (ϵ -Caprolactone) Composites with Solid-State NMR – Min Xu , <i>East China Normal University</i>	CNC Production and Applications Development – Shaul Lapidot , <i>Melodea, Ltd.</i>
9:38	Enhancement of Adsorption Capacities Using CNM Reinforced Hydrogel – Yiyang Yue , <i>Nanjing Forestry University</i>	Rheological Properties of Dilute Nanocellulose Dispersions – Reina Tanaka , <i>Forestry and Forest Products Research Institute</i>	Production of Various Hydrolyzed Cellulosic Materials in a Gas/Solid Reactor Utilizing Pressurized HCl – Timo Pääkkönen , <i>Aalto University</i>
10:00 - 10:30	Break <i>Convention Hall B</i>		
10:00 – 15:30	Nanocellulose Exhibition in TAPPI Nano <i>Convention Hall B</i>		

10:30 - 12:00	Session 12: Self-Standing CNM Films/Nanopapers and Process Optimization	Session 13: CNM Morphology	Session 14: CNM Modification for Polymer Processing
10:32	Manufacture of Transparent Paper Using Surface Nanofibrillated Cellulose Fibers – Wenxia Liu, Qilu University of Technology	Nanostructural Properties and Twist Periodicity of CNFs with Variable Charge Density – Mario Arcari, ETH Zurich Department of Health Sciences and Technology	Nano Cellulose Composite with Various type of Thermoplastic Resins and Their Enhanced Mechanical Strength and Thermal Properties – Ryohei Mori, Green Science Alliance Co.,Ltd.
10:54	Designing Flexible, Smooth, Highly Transparent and Hazy CNF Films – Christian Aulin, RISE	A Simple Framework for the Complete Morphological Characterization of CNFs to Enable Accurate Prediction of their Assembly Behavior - Blaise Tardy, Aalto University	Modification of Cellulose Nanocrystals and Their Reinforcement for PLA Composite – Xue Jiang, Jiangnan University
11:16	Refined and Homogenized Nanocellulose: Fiber Quality, Energy and Strength – Shaun Ang, Monash University	Wet-TEM Investigation of Surface-Sulfated CNFs Dispersed in Water Gels - Masaaki Hisa, KRI, Inc.	Interfacial Control of TEMPO-Oxidized CNF Toward Composites – Shunsuke Fukui, Kao Corporation
11:38	Optimising Sheet and Fibre Properties to Reduce Energy Consumption of Nanocellulose Production – Warren Batchelor, Monash University	Particle Size Distributions for CNCs: An Interlaboratory Comparison – Linda Johnston, Metrology, National Research Council Canada / Government of Canada	Tailoring Interfacial Layer Structures for Nanocellulose/Polymer Composites – Hiroto Soeta, University of Tokyo
12:00 - 13:30	Lunch Provided <i>Convention Hall B</i> Producers Committee Meeting (invitation only) <i>Room 203</i>		
13:30- 15:00	Session 15: Coatings, Films and Other CNM Applications	Session 16: CNM From Structured Materials/CNM Characterization for Safer by Design	Session 17: Fundamental Mechanisms
13:32	Application of Hydrophobically Modified CNF/Resin Masterbatch "STARCEL®" to Foamed Materials – Syuichi Ohira, SEIKO PMC Corporation	Analysis of the Properties of Anisotropic Foams as a Tool for Characterizing the Fibrillation Degree of CNFs – Nathalie Lavoine, North Carolina State University	Impact of Nanocellulose on the Rheology and Microstructure of Pectin Hydrogels – Patricia Lopez-Sanchez, RISE, Research Institutes of Sweden
13:54	Cellulose filaments (CF) for Light-Weight Composites and High Performance Concretes – Balázs Tolnai, Kruger Inc.	R2R Spray Deposition of CNF Thin Films Studied Real-Time Using Surface Sensitive Scattering Methods – Calvin Brett, KTH Royal Institute of Technology & DESY Deutsches Elektronen-Synchrotron	Metal Coordination Reinforced Polyacrylamide-Based Physical Hydrogels Compositated With Carboxylated Cellulose Derivatives – Jianquan Wang, Beijing Institute of Technology

14:16	Optimizing Various Aspects of Nanocellulose Film Forming on Steel Substrate for Drying Studies – Vinay Kumar , VTT Technical Research Centre of Finland Ltd.	Implementation of Safe-by-Design Thinking into Manufacturing and Use of Products Containing Nanomaterials - Heli Kangas , VTT Technical Research Centre of Finland Ltd.	Chitosan Nanofiber-Catalyzed Selective Knoevenagel Condensation Under Green Conditions – Yusaku Hirayama , Kyushu University
14:38	Structure and Functionalities of CNF Nonwoven Sheet – Keisuke Jono , Asahi Kasei Corporation	Update on the Environmental Health and Safety of CNMs – James Ede , Vireo Advisors, LLC	Nanocellulose Aerogels for CO ₂ Capturing and Conducting Strain Sensors - You-Lo Hsieh , University of California-Davis
15:00-15:30	Break Convention Hall B		
15:30 - 17:00	Session 18: End User Panel	Session 19: Methods in Safety Evaluation of CNM	Session 20: Photonics
15:32	Panelist to be named	Development of Safety Assessment Methods for CNF – Hiedo Kajihara , National Institute of Advanced Industrial Science and Technology	Photonic CNC Films for Optoelectronic Devices – Paul Grey , CENIMAT i3N
15:54		Assessing Bioavailability and Bioperformance of Ingested Cellulose Nanomaterials Using a Novel Physiologically-Relevant Ex Vivo and in Vitro Integrated Methodology – Christie Sayes , Baylor University	Fabrication and Regulation of Colorimetric Humidity-Sensitive CNC Films – Guomin Zhao , Nanjing Forestry University
16:16		An Alternative Testing Strategy for Demonstrating the Safety of CNMs – Jo Anne Shatkin , Vireo Advisors, LLC	Chioptical and Plasmonic Films via Electrochemical Deposition – Wadood Hamad , FPInnovations
16:38		Animal Testing Approach to Demonstrate the Safety of CNMs in Food – Kimberly Ong , Vireo Advisors, LLC	Control of the Colloidal Deposition of CNC Films – Alican Gencer , KU Leuven
16:30-20:30	Conference Dinner (additional registration fee required) Hotel The Manhattan		

Thursday 6 June 2019				
8:30 – 10:00	Session 21: Use of CNMs for Paper and Paperboard Packaging Application	Session 22: New and Emerging Applications	Session 23: Printing CNMs for Biomedical Applications	Session 24: Non-Traditional Methods for Nano-Lignocellulose Extration
8:32	Wet Lamination of MFC on Board – David Guerin , Centre Technique du Papier	Overview and Progress of Nano Cellulose Vehicle (NCV) Project – Naoki Obi , Kyoto University	Bagasse Fibres and Nanocelluloses for Biocomposite Inks and 3D Printing – Gary Chinga Carrasco , RISE PFI	Isolation of Nanocellulose From Biomass via Nontraditional Routes – Fen Jiang , The University of British Columbia
8:54	Benefits of Microfibrillated Cellulose in Paperboard - Jonathan Phipps , FiberLean Technologies	Ionic Polymer Metal Composites for Sensing and Actuation Produced with Cellulose Nanofibrils – Mehdi Tajvidi , University of Maine	Fabrication of Nanocellulose/PEGDA Hydrogel and Aerogel by Stereolithography – Dong Sun , South China University of Technology	Green Preparation of Cellulose Nanocrystals Using Lignin-Based Solid Acid Catalyst – Shiyun Zhu , South China University of Technology
9:16	Nanocellulose: Packaging Applications and Commercial Development – Jack Miller , Biobased Markets	Cellulose Based Double Networked Shape Memory Polymer – Chenyang Cai , Nanjing Forestry University	3D Printing of Nanocellulose Scaffold as Culture Platform and Tissue Mimics – Xiaoju Wang , Åbo Akademi University	Preparation of Carboxymethyl Nanocellulose Fibers with Tree-like Structure Using a Recyclable Etherification – Ziqiang Shao , Beijing Institute of Technology
9:38	Preparation of Packaging Paper with High Barrier Properties Through CNF Coating - Hye Jung Youn , Seoul National University	Mechanically Adaptive Nanocomposites with CNCs – Chunxiang Ding , College of Materials Science and Engineering, Nanjing Forestry University	Biomimetic Inks Based on Hemicellulose and Nanocellulose for 3D Printing – Wenyang Xu , Åbo Akademi University	Continuous Production of Cellulose Nanocrystals in a Microfluidic Reactor Systems: An Industrial Viable Approach – Prodyut Dhar , Kyoto University
10:00 - 10:30	Break Convention Hall B			
10:30 - 12:00	Session 25: Lignin and Hemicelluloses Nanoparticles and Applications	Session 26: Production and Characterization of Modified CNFs	Session 27: CNM for Biomedical Applications	Session 28: Towards Non-Traditional Markets

10:32	Developing Nanomaterials from Xylan: Single Crystal Nanotiles – Scott Renneckar , University of British Columbia	Preparation and Characterization of the Surface-Sulfated CNF – Lianzhen Lin , KRI, Inc.	Nanocellulose Hydrogels for Biomedical Applications – Gil Garnier , Monash University	Priorities for Development of Standards to Support the Commercialization of Cellulose Nanomaterials – Stephanie Beck , FPInnovations
10:54	Lignin Nanoparticles as a High-Value Material Platform for Functional Nanocomposites – Dongdong Tian , Sichuan Agricultural University	Modified Fenton Oxidation of Cellulose Fibres for CNF Preparation – Qun Li , Tianjin University of Science and Technology	Fibroblast Cell Culture on Extracellular Matrix-Mimetic Scaffolds Composed of Surface-Carboxylated Nanocellulose - Mayumi Hatakeyama , Kyushu University	Labeled Cellulose Nanofibrils for EHS Studies – Douglas Fox , American University
11:16	Production of Lignin Nanoparticles Directly from Wood and its Application as a Plasticizer in Polymer Films - Junyong (J.Y.) Zhu , USDA Forest Products Lab	Relationships Between the Structures and Properties of Acid-Free TEMPO-Oxidized Cellulose Nanocrystals (TEMPO-CNCs) – Yaxin Zhou , University of Tokyo	Preparation of Hollow Semipermeable Keratin-Cellulose Hybrid-Filament for Controlled Release Applications – Hannes Orelma , VTT-Technical Research Centre of Finland	Factors Affecting CNC Organogel Formation and Their Effects on Pharmaceutical Crystallization – Manali Banerjee , Georgia Institute of Technology
11:38	Transparent and Homogenous CNC-Lignin UV Protection Films – Zhijia Jiang , Auburn University	Characterization of Phosphorylated CNF Dispersion and its Applications – Yuichi Noguchi , Oji Holdings Corporation	CNF Based Gels for Tissue Engineering – Kristin Syverud , RISE PFI	Hybrid Materials of Nanocellulose and Graphene – Tiffany Abitbol , RISE, Research Institutes of Sweden
12:00-13:30	Session 29: Keynote Presentation and Lunch Sponsored by: Aalto University & VTT Technical Research Centre of Finland Ltd. Convention Hall A&B			
13:30 - 15:00	Session 30: Commodity & Engineering Plastic Composites	Session 31: Energy Storage	Session 32: End Functionalized CNMs and New Self-Assembled Architectures	Session 33: New Pathways for Nanocellulose Composites
13:32	Creating Filled Nanocomposites from Industrially Relevant Polymers – Johan Foster , Virginia Tech	Processability of Nanographite-Nanocellulose Based Electrodes for Flexible Energy Storage Applications – Rajesh Koppolu , Åbo Akademi University	Symmetrically and Asymmetrically Functionalized CNCs – Gwendoline Delepierre , Adolphe Merkle Institute - University of Fribourg	Highly Thermally Stable Transparent Nanocomposites of Immiscible Polymer and Nanocelluloses Fabricated via a Pickering Emulsification Pathway – Subir Kumar Biswas , Kyoto University

13:54	Synthesis of Nylon 66 Composites Containing Natural Organic Nanomaterials – Lam Tan Hao , Korea Research Institute of Chemical Technology (KRICT)	CNFs: A New 1D Element for Flexible Paper Power Sources - Sand-Young Lee , UNIST	Unconventional CNC Derivatives – Johanna Majoinen , Aalto University	Developing High Performance PA11/Cellulose Nanocomposites for Industrial-Scale Melt Processing – Priya Venkatrama , Virginia Tech
14:16	Electrospinning and Fiber Stretching of Polymer-Grafted CNC Polystyrene Nanocomposites: Structures and Dynamic Mechanical Properties – Yaman Boluk , University of Alberta	Improving and Regulating Pore Structure of TEMPO-Oxidized Cellulose Micro-Nano-Fibers Membranes for Lithium-Ion Batteries Separator – Weigui Xie , South China University of Technology	New Assemblies Based on Asymmetrically-Functionalized CNCs – Bruno Jean , CERMAV-CNRS	Zero-VOC Waterborne Acrylic Coatings: Improving Properties with Cellulose Nanocrystals – Ezgi Dogan-Guner , Georgia Institute of Technology
14:38	Process Design Due to Nano-Fusion for Reinforced Nanocomposites by Embedding Nanocellulose Honeycomb Frames – Tetsuo Kondo , Kyushu University	Highly Porous Willow-Derived Activated Carbon for High Performance Supercapacitor Electrodes – Josphat Phiri , Aalto University	Arrangement of CNCs into 2D Cellular Networks with Tunable Dimensions – Eero Kontturi , Aalto University	Emulsion-Templated Synthesis of Nanocellulose-Shelled Microparticles – Shuji Fujisawa , The University of Tokyo
15:00-15:30	Break Convention Hall B			
15:30 – 17:00	Session 34: Additive Manufacturing	Session 35: CNM Composites and Surface Modification	Session 36: Advances and Insights into CNC Self-Assembly Upon Drying	Session 37: Papers and Beyond
15:32	Effect of Viscoelastic Properties on 3D Printability of CNF Hydrogels – Jinho Hyun , Seoul National University	Thiol-Ene Modifications to Alter CNF Film Properties – Kendra Fein , University of Maine	Recent Advances in Vacuum Assisted Self-Assembly of CNCs - Jianming Zhang , Qingdao University of Science and Technology	Properties of Fluorescent Paper via Surface Coating of Cellulose Derivatives / Rare Earth Metal Ions Composites – Jun Ye , South China University of Technology
15:54	Assessment of Mechanical Properties and Fiber Alignment of Additively Manufactured CNF Materials – Kevin Turner , University of Pennsylvania	Controlling Formation and Properties of Cellulose Nano-Paper Using Polyvinylpyrrolidone/ Laponite Nanoparticle System – Guodong Li , Qilu University of Technology	Nanoparticle Alignment in Drying CNC Droplets – Michael Bortner , Virginia Tech	Cellulose Nanofibril (CNF) Based Gel Polymer as a Solid State Electrolyte for Lithium Ion Battery (LIB) – Hao Zhang , Tianjin University of Science and Technology

16:16	Monocomponent Nanocellulose for Biobased 3D Printing - Rubina Ajdary , <i>Aalto University</i>	Fatty Acid Assisted Surface Modification of CNFs for Developing Packaging Film for Food Products – Balunkeswar Nayak , <i>University of Maine</i>	Controlling the Deposition Pattern of CNCs in Drying Droplets Using Internal Flow Fields – Wim Thieleman , <i>KU Leuven</i>	Inverse Thermoreversible Methylcellulose/Cellulose Nanocrystal Nanocomposite Hydrogel for Fiber Spinning – Ville Hynninen , <i>Aalto University</i>
16:38	Stretchable and Conductive Nanocellulose Composites – Gilberto Siqueira , <i>Empa</i>	TEMPO-CNF Epoxy Hybrids for Nanopapers with Improved Wet Strength - Florian Mayer , <i>University of Vienna</i>	Self-Assembly of CNCs Around Complex Contours – Konrad Klockars , <i>Aalto University</i>	Nano-Cellulose Enhanced Dialdehyde Carboxymethylcellulose Dual Responsive Self-Repairing Hydrogel – Shiyu Fu , <i>South China University of Technology</i>
Friday 7 June 2019				
8:00 – 19:00	Traditional Japanese Paper Mill, Honda Plant, and Hodosan Shrine Tours			