PRELIMINARY TECHNICAL PROGRAM

As of 04-03-2024- Subject to Change

Monday 10 June 2024	
08:30 – 13:00	****Academic Tour: Renewable Bioproducts Institute/Georgia Tech** *Shuttle Pick-up for Tour Departure: ?*
08:00 – 10:00	****Advanced Opportunities for Cellulose Nanomaterials in Packaging Applications Workshop** ***Lead Instructors**: Nicole Stark, USDA Forest Products Laboratory* *Room: ?*
10:00 – 12:00	****Cellulose nanomaterial Safety and Regulatory Update Workshop** ***Lead Instructors**: Jo Anne Shatkin, Vireo Advisors* *Room: ?*
13:30 – 16:00	**CNM Characterization Workshop – Primary Characterization** ***Lead Instructors:** Johan Foster, University of British Columbia* *Room: ?*
14:30 – 16:00	***NANO Research Committee Meeting** *Room: ?*
16:00 – 17:00	**Session 1: OPENING SESSION AND KEYNOTE** ***"Title"*** ***Sean Ireland,** Co-Founder, CapaTec Inc.* *Session Chair:*
17:00 – 18:30	**Welcome Reception & Trade Fair** *Room: ?*
18:30 – 19:30	**New Member First Time Attendee Mixer** *Room: ?*

Tuesday 11 June 2024			
08:30 - 10:00	***Session 2: Nanomaterial Production – Emerging Technologies 1*** *Session Chair* ***: Colleen Walker****, University of Maine* *Room : ?*	***Session 3: Water Treatment and Recovery*** *Session Chair:* ***Fernanda Brito****, University of British Columbia* *Room: ?*	***Session 4: Sustainability Assessment of Cellulose Nanomaterials*** *Session Chair:* ***Naveenkumar Rajendiran****, University of Wisconsin, USDA* *Room: ?*
8:32	New Method for Producing Nano Cellulose by Jarolim Fasertechnik GmbH – **Michael Jarolim***, Microfibrils*	Mussel-Inspired Nanocellulose Coating for Selective Neodymium Recovery- **Amir Sheikhi***, Penn State University*	Greenhouse Gas Emission Impacts of Biobased Packaging with Micro fibrillated Cellulose- **Jo Anne Shatkin***, Vireo Advisors*
8:54	Biorefinery Cellulose Nanomaterials – **Jack Miller***, Market-Intell LLC*	Nano-Triboelectric Cellulose Membrane Sensor for Heavy Metal Ions Removal and Detection – **Zhaohui Tong***, Georgia Tech*	Life Cycle Assessment of Manufacturing Cellulose Nanofibrils Reinforced Chitosan Composite Films for Packaging Applications – **Sudhagar Mani***, University of Georgia*
9:16	Fibenol - An Enabler of Making Most Sustainable Specialty Cellulose Price Competitive – **Gert Preegel***, Fibenol*	Next-Generation Nanofiltration Membranes via Machine Learning-Screened Novel Monomers – **Yongsheng Chen***, Georgia Tech*	Prospective Life Cycle Assessment of Cellulosic Nanomaterials- **Valdeir Arantes** *, university of Sao Paulo*
9:38	Revolutionizing Sustainability: Unveiling Re-Nano, a Breakthrough in Eco-Friendly Nanocellulose Sourcing- **Bjorn Schulz***, Re-Fresh Global*	Thiolated Cellulose Nanocrystals as Selective Copper Depressant in Mineral Processing- **Feliciana Ludovici,** *University of Oulu*	Techno-Economic Analysis and Life Cycle Assessment of Cellulose Nanocrystals production From Wood Pulp – **Naveenkumar Rajendiran***, University of Wisconsin, USDA*
10:00 -10:30	**Break** **?**		

10:30 - 12:00	***Session 5: Nanomaterial Production – Emerging Technologies 2*** *Session Chair:* ***Björn Schulz****, Re-Fresh Global* *Room: ?*	***Session 6: Self Assembly and Photonics*** *Session Chair:* ***Laurent Matuana****, Michigan State University* *Room: ?*	***Session 7: Safety Assessments of Cellulose Nanomaterials*** *Session Chair:* **David Skuse,** *Fiberlean Technologies, and* ***Jo Anne Shatkin,*** *Vireo Advisors* *Room: ?*
10:32	One Pot Production of Cellulose Nanocrystals Using Transition Metal Catalyzed Oxidation – **Sean McAlpine**, *Blue Goose Biorefineries*	Influence of Sugars on the Self-Assembly of Cellulose Nanocrystals – **Matteo Hirsch**, *EPFL*	Microfibrillated Cellulose Products from Wet Stirred Media Mills: Environmental and Regulatory considerations – **David Skuse**, *FiberLean*
10:54	Process and Product Scenarios for Cellulose Nanofiber for Near-Commercial Applications **Colleen Walker**, *University of Maine*	3D Printing of Cellulose to Programmable Chiral Nanostructures – **Monirosadat Sadati**, *University of South Carolina*	Advancing New Approach Methodologies for Evaluating the Safety of Cellulose Nanomaterials – **James Ede**, *Vireo Advisors*
11:16	Electrochemical Dewatering of Cellulosic Nanomaterials – **Santosh Vijapur**, *Faraday Technologies*	A Novel Precipitation-Based Modification Route to Tailor Cellulose Nanocrystal Performance – **Emily Cranston**, *University of British Columbia*	Labeled Cellulose Nanocrystals Through Reductive Animation of Sugars – **Colleen Oxford**, *American University*
11:38	High Shear Drying of Cellulose Nanofibrils (CNF) – **Charles Eme**, *University of Maine*	Impact of Directed Aggregation on Cellulose Nanocrystal Morphology and Chiral Properties – **Kevin Ballu**, *University of Cambridg*	The impact of surface functionalization of cellulose following simulated digestion and gastrointestinal cell-based model exposure – **Christie Sayes**, *Baylor University*
12:00 -13:30	**Session 8: Lunch with Presentation Sponsored by ?** **Title of Presentation:?** ***Speaker: Carson Meredith,*** *Georgia Tech/ Renewable Bioproducts Institute* ***Session Chair: ?*** ***Room : ?***		

13:30 - 15:00	***Session 9: Thermoset and Thermoplastic Composites*** *Session Chair:* ***Suraj Sharma****, University of Georgia* *Room: ?*	***Session 10: Hydrogels, Aerogels, and Scaffolds*** *Session Chair: Emilien Freville, University of Grenoble* *Room: ?*	***Session 11: Special Topics: CNMs in Functional Applications*** *Session Chair:* ***Matteo Hirsch,*** *EPFL* *Room: ?*
13:32	The Development of Manufacturing Process for High Contents CNF Composite Pellets in Pilot Scale. – **Ikko Matsusue***, Daio Paper Corporation*	Revolutionizing superabsorbent structures: A Sustainable Future with Bio-inspired Nanomaterials-Based Solutions - **Seyedrahman Djafaripetroud***, Lakehead University*	Additive Manufacturing of Cellulose-Based Materials – **Matteo Hirsch***, EFPL*
13:54	Non-Woven Wet-Lay of Cellulose Nanofibril (CNF)-Polypropylene Fiber Composites Mats: Investigation as a Compounding Material or Compression Molding Feedstock – **Caitlyn Clarkson***, Oak Ridge National Laboratory*	Cellulose Nanofibril Stabilized Pickering Emulsion Templated Aerogel with High Oil Absorption Capacity Nanocellulose-based aerogels – **Shuaib Mubarak***, Mississippi State University*	Role of cellulose nanofibrils in stretchable conductive ink formulation – **Marie Goizet***, University of Grenoble*
14:16	Investigation of Cellulose Nanofibril (CNF) and Polyurethane Emulsion as Water-Based Additives for Wet-lay of Cottonized Hemp-Polyamide Composites – **Caitlyn Clarkson***, Oak Ridge National Laboratory*	Fabrication and Evaluation of Novel Cellulose Nanofibril Composite Scaffold for Bone Regeneration – **Adeola Fadahunsi***, University of Maine*	Cellulose Based Composite For Fluid Transporting In Paper-Based Microfluidic Analytical Devices (µPAD) – **Erwan Troussel***, University of Grenoble*
14:38	Scaling Up Hybrid Fiber Composites for Industrial Applications – **Amber Hubbard***, Oak Ridge National Laboratory*	Customizing Nanofibrillated Cellulose Hydrogel Coatings from a Variety of Plant Sources – **Suraj Sharma***, University of Georgia*	Cellulose Optical Fibres for Biosensing Applications – **Aayush Jaiswal***, VTT*
15:00 -15:30	**Break** **?**		

15:30 -17:00	***Session 12: Panel Discussion "Nanocellulose Charachterization: Industry Needs, Methods and Technology Gaps"*** *Moderator: ?* *Room: ?*	***Session 13: Student Rapid Fire*** *Moderator: ?* *Room: ?*
	Panelist: ***Emily Cranson:*** *University of British Columbia*	***Panelists:***
17:00 -19:00	**Session 14: Poster Session, Student Poster Competition and Product Showcase Room:**	
19:00-19:30 Conference Group Photo		

Wednesday
12 June 2024

08:30 -10:00	***Session 15: Coatings and Packaging*** *Session Chair:* ***Gregory Moore,*** *University of Washington* *Room: ?*	***Session 16: Alternative Production Pathways*** *Session Chair:* ***Panu Lahtinen****, VTT Technical Research Center* *Room: ?*	***Session 17: CNC Novel Applications*** *Session Chair:* ***Zhaohui Tong,*** *Georgia Tech* *Room: ?*
08:32	Towards The Formulation of A Water-Barrier Coating Solution For Packaging Applications: Strategies For Coupling TEMPO-Oxidized Cellulose Nanofibrils (T-CNFs) And Gum Rosin – **Chisom Umeileka***, North Carolina State University*	High Solids Production of Microfibrillated Cellulose (MFC) With and Without Mechanical and Enzymatic Pretreatment – **Junyong Zhu***, USDA Forest Products Laboratory*	Cellulose Autofluorescence Applied as Optical Sensor for Tannin In Red Wines – **Kelcilene Teodoro***, Company/Institution*

08:54	Novel Pectin–Cellulose Nanofiber Composites for Modified Atmospheric Packaging – **Nosa Idahagbon**, *Purdue University*	Tailoring The Performance of Cellulose Nanofibrils Films Through Optimization of Aqueous Counter Collision Processing Conditions – **Nathaline Lavoine**, *North Carolina State University*	Acoustic Insulation of Mycelium-Bound Composites from Agro-Industrial Waste – **Wenjing Sun**, *EPFL*
09:16	Enabling Scalable Coating Method of Cellulose Nanofiber on Plastic for Packaging – **Tae Joong Jeong**, *Anapoly*	Recent Advances In Cellulose Nanospheres: Production, Formation Mechanisms, Properties and Applications – **Valdeir Arantes**, *University of Sao Paulo*	Cellulose Nanocrystals are Renewable and Effective Nanocarriers of Herbicides – **Delaney Clouse**, *Auburn University*
09:38	Optimization and surface modification of food serving containers using lignocellulosic materials – **Mamoona Raheem**, *University of Maine*	Influence of Fibrillation Pretreatment for CNC Production by Subcritical Water Extraction: Wet Ball Milling vs Refining. – **Ruby Osei-Bonsu**, *University of British Columbia*	Biodegradable acoustic sensor leveraging triboelectricity – **Harsh Kumar Verma**, *Georgia Tech*
10:00 - 10:30	**Break ?**		
10:30 -12:00	***Session 18: CNF Characterization and Control of CNF Film Structure*** *Session Chair:* ***Junyong Zhu****, USDA* *Room: ?*	***Session 19: Lignocellulosics*** *Session Chair:* ***Amir Sheikhi****, Penn State University* *Room: ?*	***Session 20: CNM from Non-Wood Sources*** *Session Chair: Nathalie Lavoine****,*** *North Carolina State University* *Room: ?*
10:32	Methodology for Evaluating if Microfibrillated Cellulose Meets the European Commission's Regulatory Definition of a Nanomaterial – **Yueyang Zhang**, *Vireo Advisors*	Preperation Of Antioxidants, Antibacterial and UV-Shielding Nanocellulose Films by Incorporation of Lignin Nanopaticles – **Raquel Martin-Sampedro**, *CSIC*	Exploiting the Properties of Non-wood Feedstocks to Produce Tailorable CNF - **Meghan Lamm**, *Oak Ridge National Laboratory*
10:54	Controlled Shrinkage of Cellulose Nanofibril (CNF) Films for Enhanced Physical, Mechanical and Barrier Properties; A Call for Standardization – **Mehdi Tajvidi**, *University of Maine*	Ion-Exchange Membranes in A Zinc-Iodine Redox Flow Batteries Utilizing Modified Lignin Nanocomposites – **Fernanda Brito**, *University of British Columbia*	Applicability of industrial softwood bark for CNF production and barrier films – **Panu Lahtinen**, *VTT*
11:16	Controlling Impact Mitigation of Nanocellulose Films with Bouligand Nanostructures – **Suujin (Rebecca) Lee**, *NIST*	Enhancing 3D printed Polypropylene Composites with Sawdust: The Impact on Printability and Thermomechanical Properties Using Fused	Synthesis and Characterization of Hemp-Derived Cellulose Microfibrils and Reinforced Polyvinyl Alcohol Composites –

		Deposition Modeling(FDM) – **Adel Jalaee**, *University of British Columbia*	**Gabriella Fioravanti**, *Company/institution*
11:38	Predicting nanocellulose dimensions by hyperspectral imaging coupled with machine learning algorithms – **Nashwa Attallah**, *Aalto University*	Sustainably Sourced Natural Fibers For Thermal insulation In Buildings - **Elyssa Ferguson**, *Georgia Tech*	Effect of Enzymatic Hydrolysis On The Microfibrillation of Mechanical Pulp Fibres - **Mariana Frias de Albuquerue**,*University of British Columbia*
12:00 - 13:30	**Session 21: Lunch with Presentation Sponsored by** **Title: ?** **Presenter: *Heli Kangas*,** *Valmet* **Session Chair: ?** **Room: ?**		
13:30 - 15:00	***Session 22: End User Panel CNC-Based Nanocomposites*** *Session Chair: **Oliver Musl**, University of British Columbia* *Room: ?* **Panelist:** **Yitzac Goldstein,** Earth Protex Corp **Ilona Leppanen**, VTT **Gael Depres**, FEDRIGONI Group		
15:00 -15:30	**Break** **?**		
15:30 - 17:00	***Session 23: New Technology Showcase*** *Session Chair**: Colleen Walker**, University of Maine* *Room: ?*	***Session 24: CNF Novel and Emerging Applications*** *Session Chair: **Rakibul Hossain,** University of Maine* *Room: ?*	***Session 25: Cellulose Based Films*** *Session Chair**: Frederic Zenhausern**, Center for Applied Nanobioscience* *Room: ?*

15:32	**Exhibitors:** **Fiberlean – *Dave Skuse*** **KTH – *Beatrice Swensson***	Designer Nanocelluloses For Surface Coordinated and Initiated Engineering Materials - **You-Lo Hsieh**, *University of California, Davis*	Effectiveness Of Silicate As A Binder to Improve The Mechanical Properties of Cellulose-Based Materials – **Feng Jiang**, *University of British Columbia*
15:54		Role of Micro-Fibrillated Cellulose in Raw Earth Minerals Mixture for Building Applications- **Emma Colombari**, *University of Grenoble*	The Combined Effects of Electrolyte Addition and Mechanical Shearing on Transparent and Flexible Cellulose Nanocrystal Films – **Ananya Ghosh**, *Auburn University*
16:16		Paper-Based Electronic Tongue For Rapid And Reusable Quantitative Sensing of Water In Organic Solvents Using Principal Component Analysis – **Gregory Moore**, *University of Washington*	De-wrinkling for Papers Coated with Cellulose Nanocrystals and Modified Celluloses -**Xiaoqing Yu**, *Georgia Tech*
16:38		Co-application of Cellulose Nanofibril and Agrochemicals to Improve Crop Productivity – **Lu Wang**, *University of Tennessee*	Active Casein Films Based on The Combination of Cellulose Nanocrystals and Propolis Extract – **Giuliana Franco**, *The Federal University of Sao Carlos*
17:00 -18:15	***Session 28: Open***		
18:30 -22:00	****Conference Dinner** **18:30 - 22:00** *?*		

Thursday 13 June 2024			
08:30 -10:00	***Session 29: Functionalized CNM Production*** *Session Chair:* ***Julien Bras****, University of Grenoble* *Room: ?*	***Session 30: Films and Coatings for Barrier Properties*** *Session Co-Chair:* ***Umeileka Chisom****, North Carolina State University* *Room: ?*	***Session 31: CNF & MFC Processing Techniques*** *Session Chair:* ***You-Lo Hsieh****, University of California Davis* *Room: ?*
08:32	Metallic Catalysts for Sustainable And Greener Production of Nanocellulose- **Joice Jaqueline Kaschuk***, Aalto University*	Toward Durable Cellulose Nanomaterial Enabled Biobased Barrier Coatings – **Ronald Sabo***, US Forest Products Laboratory*	3D Printing with Cellulose Nanofibrils (CNFs) Enabled by Microwave Irradiation – **Md Musfiqur Rahman***, University of Maine*
08:54	Methacrylate And Polymer Modifications to Pulp That Reduce Refining Energy to Produce Cellulose Nanofibrils for Composite Applications – **William Gramlich***, University of Maine*	MFC Barrier Film At Industrial Scale For Food And Printed Electronics Applications – **Gael Depres***, FEDRIGONI*	Innovative Redispersion Technique of High Solid Content MFC Nanopaper by Using Polyelectrolytes – **Arnaud Benard***, University of Grenoble*
09:16	Electrochemical TEMPO-Mediated Oxidation of Cellulose: Gaining A Mechanistic Understanding of a New Non-conventional Process – **Alexandra Rousseau***, University of British Columbia*	Modeling Dewatering Rate of Cellulose Nanofibrils (CNFs) to Enable Processes to Produce Grease and Oil Resistance Paperboard – **Bright Appiah***, University of Maine*	Preserving Properties of Mechanically Produced CNF When Pressing to 30% Solids – **Donna Johnson***, University of Maine*
09:38	Assessment of A Chlorine Dioxide-Mediated TEMPO Oxidation Pretreatment to Produce Microfibrillated Cellulose from Chemical Pulps Containing Residual Lignin – **Laura Giraldo Isaza***, University of Grenoble*	Injection of A High Solid Content CNF Layer onto Molded Cellulose To Obtain Grease and Gas Barrier Layer – **Emilien Freville***, University of Grenoble*	Synergistic Effects of Thermomechanical Pulp Fibers, Cellulose Nanofibrils, And Surfactants in Fabricating High-Performance Insulation Foams: A Structure-Property Relationship Study – **Rakibul Hossain***, University of Maine*
10:00 - 10:30	**Break** **?**		

10:30 -12:00	***Session 32: CNCs as Reinforcer I*** *Session Chair:* ***Emily Cranston****, University of British Columbia* *Room: ?*	***Session 33: Cellulose Based Coatings*** *Session Chair****: Rudolf Schick****, Spraying Systems Co.* *Room: ?*	***Session 34: Open*** *Session Chair: ?* *Room: ?*
10:32	Advancements in Nanocrystalline Cellulose (NCC) Production: From Process Scale-Up to Reinforcement in Polymer Matrix – **Vineet Aniya***, CSIR Indian Institute of Chemical Technology*	Enhancing The Ppoperties Of Latex-Based Coatings With Carboxylated Cellulose Nanocrystals – **Maria Ordonez***, Queen's University*	Presentation title - **Speaker***, Company/institution*
10:54	Cellulose Nanocrystals (CNCs) for Enhancing All Properties At Once In Structural Multifunctional Composites. – **Rudolf Schick***, Spraying Systems Co.*	Sustainable Oxygen Barrier Coatings for Paper based on Anionic and Cationic Cellulose-Derived Materials – **Jonathan Rhone***, Georgia Tech*	Presentation title - **Speaker***, Company/institution*
11:16	Poly (Lactic Acid)/Cellulose Nanocrystal Nanocomposite Films for the Preservation of Oxygen-Sensitive Food – **Laurent Matuana***, Michigan State University*	Cellulose Nanocrystal Coated Glass Fiber-Epoxy Composites: Interfacial and Tensile Properties – **Kim Anh Pham***, Georgia Tech*	Presentation title - **Speaker***, Company/institution*
11:38	Engineered Low-Carbon Fiber Cement: Exploring The Paradigm of Cellulose-Based Additives – **Sreenath Raghunath***, University of British Columbia*	Layer-by-Layer Assembled Biobased Aerogels: Achieving Superior Mechanical Properties and Fire-Retardancy for Thermal Insulation Applications – **Amir Varamesh***, University of Calgary*	Presentation title - **Speaker***, Company/institution*
12:00 - 13:30	**Session 35: Lunch with Presentation** **Title: ?** **Speaker:** ***Kenneth Zwick****, Forest Products Lab* ***Session Chair: ?*** **Room: ?**		

13:30 - 15:00	***Session 36: Functionalized CNM Production 2*** *Session Chair:* ***William Gramlich****, University of Maine* *Room: ?*	***Session 37: CNF & MFC Sheets and Films*** *Session Chair:* ***Mariana Frias De Albuquerque****, University of British Columbia* *Room: ?*	***Session 38: Student Career Roundtable*** ***Session Chair: ?*** *Room: ?*
13:32	Comparing Reactivity of Carboxylated Cellulose Nanocrystals Produced Via Different Routes – **Kudzanai Nyamayaro***, University of British Columbia*	Micro-fibrillated Cellulose (MFC) - Process Variables vs. Sheet Results – **David Cowles***, Valmet*	***Keith Gourlay****, Performance BioFilaments* ***Nathalie Lavoine****, North Carolina State University*
13:54	Citric Acid-Grafted Cellulose Nanocrystals with High Yield and Tailored Performance – **Tristan (Runru) Lui***, University of British Columbia*	Out-of-Plane Auxeticity in Cellulose Nanofibril Films – **Fariha Rubaiya***, Georgia Tech*	
14:16	Understand The Effect of Lignin On The Processing-Structure-Properties of lignin-containing cellulose Nanofibrils – **Nathalie Lavoine***, North Carolina State University*	Improving the Barrier Properties of Paper through the Addition of Cellulose Filaments – **Francois Drolet***, FPInnovations*	
14:38	Mechanochemistry As A Solution To Produce and Functionalize Various Types of Nanocellulose – **Julien Bras***, University of Grenoble*	Life Cycle Assessment of Manufacturing Cellulose Nanofibrils Reinforced Chitosan Composite Films for Packaging Applications – **Sudhagar Mani***, University of Georgia*	
15:00 -15:30	**Break** **?**		
15:30 - 17:00	***Session 39: Open*** *Session Chair: ?* *Room: ?*	***Session 40: Open*** *Session Chair: ?* *Room: ?*	***Session 41: Open*** *Session Chair: ?* *Room: ?*
15:32	Presentation title - **Speaker***, Company/institution*	Presentation title - **Speaker***, Company/institution*	Presentation title - **Speaker***, Company/institution*
15:54	Presentation title - **Speaker***, Company/institution*	Presentation title - **Speaker***, Company/institution*	Presentation title - **Speaker***, Company/institution*

16:16	Presentation title - **Speaker**, *Company/institution*	Presentation title - **Speaker**, *Company/institution*	Presentation title - **Speaker**, *Company/institution*
16:38	Presentation title - **Speaker**, *Company/institution*	Presentation title - **Speaker**, *Company/institution*	Presentation title - **Speaker**, *Company/institution*
17:00 - 18:00	**2023 Nano Conference Wrap Up Meeting** **Room: Seymour**		
18:00 -19:00	**2024 Nano Conference Planning Meeting (Invitation Only)** **Room: Seymour**		

Friday **16 June 2023**	
08:00 - 11:00	**Producers Committee Meeting (Invitation Only)** **Room: Cypress**