

2015 International Conference on Nanotechnology for Renewable Nanomaterials

22-25 June 2015 - Atlanta, Georgia, USA

Preliminary Technical Program (subject to change)

| Monday, 22 June 2015 | | | | |
|-----------------------|---|--|---|--|
| 9:30 - 2:30 | Tour of API's Thomaston Biorefinery & New Nano Demonstration Line- pre-registration required (limited to 100 persons) | | | |
| 6:00 - 7:00 | Welcome Reception Sponsored by FPIInnovations | | | |
| 7:00 - 8:00 | Young Professionals Networking Mixer, Sponsored by the TAPPI Young Professionals Division. (Open to All Attendees) | | | |
| Tuesday, 23 June 2015 | | | | |
| 8:00 - 9:00 | Welcome and Opening Keynote Presentation Marie D'Iorio, Executive Director, <i>National Institute for Nanotechnology</i> | | | |
| 9:00 - 10:30 | Composites I: Thermoset and PLA-based Composites Session Chair: Gilberto Siqueira, <i>EMPA</i> "Design and Characterization of Cellulose Nanocrystals Enhanced Epoxy Hardeners" - Shane Peng , <i>Purdue University</i> "Use of Order of Addition to Improve CNC Dispersion and Emulsion Stability in Waterborne Epoxy Formulations" - Carson Meredith , <i>Georgia Institute of Technology</i> "Investigating the Interphase in PLA/CNC Composites" - John Simonsen , <i>Oregon State University</i> "Process-Structure-Property Relationship of Cellulose Nanocrystal / Polylactic Acid Nanocomposite Films" - Erin M. Sullivan , <i>Georgia Institute of Technology</i> | Lab & Pilot Scale I Session Chair: Leslie McLain, <i>IMERYS</i> "Development of nanofibrillated cellulose/nanographite composites for paper applications" - Sinke Henshaw Osong , <i>Mid Sweden University</i> "Research, Development, Scale-Up, Production and Selected Applications of FiberLean™ Microfibrillated Cellulose/ Mineral Composite for Paper and Board Applications" - David R. Skuse , <i>Imerys</i> "Effect of Carboxy-Methyl-Cellulose (CMC) as a Dispersing Agent for Micro-Nano Fibrillated Cellulose (MNFC) on Z-Structured TMP Paper and MNFC Films Properties" - Mohamed Ali Charfeddine , <i>Lignocellulosic Materials Research Centre/UQTR</i> "Optimizing the Microstructure of MFC Composite Paper for Improved Dewatering and Sheet Properties" - Juuso Johannes Rantanen , <i>Aalto University</i> | Characterization: Thermal, Mechanical and Surface Properties of Cellulosic Nanomaterials Session Chair: Emily Cranston, <i>McMaster University</i> "Comparative Kinetic Study of the Thermal Decomposition of Nanocellulose Produced by H2SO4 Hydrolysis, TEMPO, and AVAP Processes" - Jamila Marshall , <i>Clark Atlanta University</i> "Characterization of Cellulose Nanomaterials and Cellulosic Biomass with the Atomic Force Microscope" - Ryan Wagner , <i>NIST</i> "Effects of Electron Beam Treatment on Nano-Crystalline Cellulose Properties" - Yung B. Seo , <i>Chungnam National University</i> "2D NMR Identification of Sulfate Group on Cellulose Nanocrystals" - Teng Xu , <i>Auburn University</i> | |
| | Break | | | |
| | 11:00 - 12:30 | Composites II: Processing of Composites Session Chair: Alain Dufresne, <i>Grenoble Institute of Technology</i> "Manufacturing of Cellulose and Chitin Nanocomposite Fibres Using Ionic Liquids and Environmentally Benign Solvents" - Sameer S. Rahatekar , <i>University of Bristol</i> "Drying Techniques for Improved Redispersion of Cellulose Nanocrystals in Transparent Media" - Jim Snyder , <i>U.S. Army Research Laboratory</i> | Lab & Pilot Scale II Session Chair: Behzad Ahvazi, <i>AITF</i> "Preparation of Dried Cellulose Nanofiber Materials Which Are Easily Re-Dispersed in Water" - Hiroaki Namba , <i>Nippon Paper Industries Co. Ltd.</i> "Experience From First Commercial Cellulose Nanofibril Production Plant" - Michael A. Bilodeau , <i>University of Maine</i> | |

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| | <p>"MFC-Based Composite Films for Gas Barrier Applications" - Caglar Mericer, <i>University of Bologna</i></p> <p>"Melt processing of cellulose nanocrystal reinforced polycarbonate from a master-batch process" - Marcos Mariano, <i>Grenoble Institute of Technology</i></p> | <p>"Strategic Development for Optimization of Cellulose Nanocrystals (CNC) Production" - Christophe Danumah, PhD, <i>Alberta Innovates - Technology Futures</i></p> <p>Production, Application Development and Commercialization of Cellulose Filament (CF)" - Balazs Tolnai, <i>Kruger Inc.</i></p> | |
| 12:30 -2:00 | Lunch & Presentation by Norman Marsolan Georgia Tech Nanocellulosic Research: Innovating Renewable Bioproducts | | |
| 2:00 - 3:30 | <p>Composites III: Thermoplastic-based Composites</p> <p>Session Chair: John Simonsen, <i>Oregon State University</i></p> | <p>Lab & Pilot Scale III: Production and Application of Nanocelluloses</p> <p>Session Chair: Rajesh Sunasee, <i>State University of New York at Plattsburgh</i></p> | <p>Technology Showcase</p> |
| | <p>"Thermoplastic Nanocomposite Films Using Micro- and Nano-Sized Cellulose Reinforcing Agents from Wood Fibers and Recycled Cotton Fabric" - Richard A. Venditti, Jr., <i>North Carolina State University</i></p> | <p>"Nanocellulose: Technology, Applications and Markets" - Jack Miller, <i>Market-Intell LLC</i></p> | <p><i>Masuko</i>, Hideki Soga</p> <p><i>USFS</i>, Theodore Wegner</p> |
| | <p>"Bio-Reinforced Composites for Additive Manufacturing: Nanocellulose-Termoplastic Composites" - Halil Levent Tekinalp, <i>Oak Ridge National Laboratory</i></p> | <p>"Laboratory and Pilot-Scale Production of Cellulose Nanocrystals at Alberta Innovates - Technology Futures" - Frank J. Tosto, <i>Alberta Innovates Technology</i></p> | <p><i>CNNT</i>, Sean Yoon</p> <p><i>Sentinel Bioactive Paper Network / FPInnovations</i>, Huining Xiao</p> |
| | <p>"Lignin: A Friend of a Foes in Nanocellulosics?" - Orlando J. Rojas, <i>Aalto University</i></p> | <p>"Analyzing the Future Applications of Nanocelluloses" - Jesse Kautto, <i>Poyry Management Consulting Oy</i></p> <p>"Overcoming Challenges on the Development of Naocellulose-based Products" - Pia Quintus, <i>VTT</i></p> | <p><i>Pacific Nano Products</i>, Charles P. Klass, Director; and Vijay Mathur</p> <p><i>American Process</i>, Jack Miller</p> |
| 3:30 - 4:00 | Break | | |
| 4:00 - 5:30 | <p>Composites IV: Design of Specific Composites</p> <p>Session Chair: Wadood Hamad, <i>FPInnovations</i></p> | <p>Lab & Pilot Scale IV: Benefits of Cellulose Nanofibrils</p> <p>Session Chair: Rajesh Sunasee, <i>State University of New York at Plattsburgh</i></p> | |
| | <p>"High Performance Cement via Cellulose Nanocrystal Addition" - Jeffrey P. Youngblood, <i>Purdue University</i></p> | <p>"Nanocellulose Meeting the Oil/Water Interface: Emulsion and Applications" - Orlando J. Rojas, <i>Aalto University</i></p> | |
| | <p>"Carbon Fibers from Polyacrylonitrile (PAN)/Cellulose Nanocrystals (CNCs)" - Huibin Chang, <i>Georgia Institute of Technology</i></p> | <p>"The Addition of CNF to Papermaking Furnish – Part 2" - Donna A. Johnson, <i>University of Maine</i></p> | |
| | <p>"CNT Incorporated Lignin/PAN Composite Carbon Fibers" - H. Clive Liu, <i>Georgia Institute of Technology</i></p> <p>"Developing Design Model for Cellulose Nano Crystal Composites" - Meisam Shir Mohammadi, <i>Oregon State University</i></p> | <p>"Cellulose Nanofibril Bound Laminated Paper Nanocomposites (Cellubound)" - Mehdi Tajvidi, <i>University of Maine</i></p> <p>"The Benefit of Cellulose Nanofibrils on Foam Formed Paper Properties" - Katariina Torvinen, <i>VTT Technical Research Centre of Finland</i></p> | |

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| 6:30 - 10:00 | Conference Dinner at the Georgia Aquarium - Registration Required. Additional \$75 |
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| Wednesday, 24 June 2015 | | | |
|-------------------------|--|--|---|
| 9:00 - 10:30 | Electronics I: Cellulose Nanomaterial Substrates for Electronics Session Chair: Liangbing Hu, <i>University of Maryland</i> | Metrology I: Novel Measurement Methods for Nanocellulose Session Chair: Jeff Gilman, <i>NIST</i> | Renewables I Session Chair: Gilberto Siqueira, <i>EMPA</i> |
| | "Nanocellulose for Printed Electronics and Energy" - Bernard Kippelen , <i>Georgia Institute of Technology</i> | "Preparation and Characterization of Silica Nanoparticle-Cellulose Nanofibre Composites" - Warren J. Batchelor , <i>Monash University</i> | "Plastics with the Highest Native Lignin Contents are Nano-Biomaterials Composed of 13 nm Macromolecular Complexes" - Simo Sarkanen , <i>University of Minnesota</i> |
| | "Stable Top-Gate Organic Field-Effect Transistors on Cellulose Nanocrystal Substrates" - Cheng-Yin Wang , <i>Georgia Institute of Technology</i> | "Mechanical Properties Characterization of Cellulosic Nanocrystal Films" - Chelsea Davis , <i>NIST</i> | "Fabrication of 'Cellulose Nano-Anemone'" - Tetsuo Kondo , <i>Kyushu University</i> |
| | "Tuning Mechanical and Electrical Properties of Paper for Disposable Devices" - Aaron Mazzeo , <i>Rutgers University</i> | "3D Infrared Chemical Images for Characterizing Cellulose Nanomaterials" - Barbara Illman , <i>U.S. Forest Service Forest Products Lab</i> | "Preparation of Cellulose Nanocrystal/Silver Nanoparticle Composite Materials for Surface Enhanced Raman Spectroscopy Applications" - Rongbing Du , <i>National Institute for Nanotechnology</i> |
| | "Development of Transparent Cellulose Nano Fiber Film for Flexible Displays" - Takayuki Shimaoka , <i>Oji Holdings Corporation</i> | "On the Aggregated State of Pulp Cellulose Nanocrystals: Are CNCs Crystalline or Simply Consolidated Particles?" - Umesh P. Agarwal , <i>USDA Forest Products Laboratory</i> | "Influence of charge density and ionic strength on the aggregation process of cellulose nanocrystals" - Isabelle Capron , <i>INRA-Nantes</i> |
| 10:30 - 11:00 | Break | | |
| 11:00 - 12:30 | Electronics II: Cellulose Nanomaterials for Device Structure Session Chair: Junyong Zhu, <i>US Forest Products Laboratory</i> | Metrology II: Progress in Standards and Policy Development for Nanocellulose Session Chair: Chelsea Davis, <i>NIST</i> | |
| | "Multifunctional Paper and Fibers Based on Nanocellulose Materials" - Hongli Zhu , <i>University of Maryland</i> | "Cellulose Nanomaterials: Measurement Needs Workshop Report" - Jeffrey W. Gilman , <i>NIST</i> | |
| | "Cellulose Nanofiber Materials for Electronic Devices" - Nogi Masaya , <i>Osaka University</i> | "Biodegradability, Compostability and Safety of Cellulose Nanofibrils (CNF) and CNF Based Products" - Heli J. Kangas , <i>VTT Technical Research Centre of Finland</i> | |
| | "Flexible Magnetostrictive Cellulose Nanofibril Membranes" - Ronald C. Sabo, Jr. , <i>USDA Forest Products Laboratory</i> | "Readying Cellulose Nanomaterials for Commercialization: Analysis of Information Needs for Globally Harmonized Standard Safety Data Sheets" - Jo Anne Shatkin , <i>Vireo Advisors</i> | |
| | "Printed Microfluidic Channels and Reaction Stations for Enzymatic Testing Based on Functionalized Calcium Carbonate and Micro Cellulose" - Roger C. Bollstrom , <i>Omya International AG</i> | "In-situ Measurements of Size and Consistency of Cellulose Nanocrystals (CNCs) in a Suspension Using Rayleigh-Gans Scattering" - Junyong Zhu , <i>USDA Forest Products Laboratory</i> | |
| 12:30 - 2:00 | Lunch with Keynote Presentation by Theodora Retsina, CEO, American Process Inc. | | |

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| 2:00 - 3:30 | Electronics III: Cellulose Nanomaterials for Energy Session Chair: Hongli Zhu, <i>University of Maryland</i> "Biomass-Derived Carbon for Energy Storage" - Xiulei (David) Ji , <i>Oregon State University</i> "Cellulose Nanofibrils: Opening Up One-Dimensional Opportunity for Flexible/High-Performance Lithium-Ion Paper Batteries" - Sang Young Lee , <i>UNIST (Ulsan National Institute of Science and Technology)</i> "Cross-linked Aerogels from Cellulose Nanocrystals as Universal Scaffolds for Supercapacitor Devices" - Emily Cranston , <i>McMaster University</i> "Energy Storage Devices Based on High Consistency Cellulose" - Otto-Ville Kaukonen , <i>VTT Technical Research Centre Of Finland</i> | Grafting I Session Chair: Yaman Boluk, <i>University of Alberta</i> "Low Cost Hydrophobic Surface Functionalization of Cellulose Nanomaterials with Lignin for Polymer Composite Reinforcement" - Kim Nelson , <i>American Process Inc.</i> "Incorporation of Forest Derived Cellulose Nanomaterials into Polylactic Acid" - Lionel Cross , <i>Clark Atlanta University</i> "Voltammetric Optimisation of TEMPO-Mediated Oxidation of Cellulose" - Yun Jin , <i>University of Bath</i> "Improved Mechanical Properties of Polylactide Nanocomposites Reinforced with Cellulose Nanofibrils Through Interfacial Engineering via Amine-Functionalization" - Yuan Lu , <i>Oak Ridge National Laboratory</i> | Renewables II Session Chair: Shaul Lapidot, <i>Melodea Ltd.</i> "Control of Indium Tin Oxide Nanoparticle Morphology using Sacrificial Templating Method" - Yuan Lu , <i>Oak Ridge National Laboratory</i> "Cellulose Nanofibers Isolated from Thermomechanical Pulp with Low Energy Consumption" - Gilberto Siqueira , <i>EMPA</i> "What Conformational Isomerism and Auxetics Typify Crystalline Cellulose?" - Akwasi Asamoah , <i>University of Exeter</i> "Bridging atomic structure and nanoscale architecture of cellulose nanofibrils in plant cell walls by Transmission Electron Tomography and Molecular Modeling" - Peter Ciesielski , <i>National Renewable Energy Lab</i> |
| | Break | | |
| 4:00 - 5:30 | Electronics IV: Other Possibilities of Cellulose Nanomaterials in Electronics & Energy Devices Session Chair: Robert Moon, <i>USDA Forest Service, GA Tech</i> "Wood Cellulose Materials Toward Photonics, Electronics and Energy" - Liangbing Hu , <i>University of Maryland College Park</i> "Cellulose Nanocrystals-Based Electrolyte for Alkaline Fuel Cells with Superior Dimensional Stability" - Yuan Lu , <i>Oak Ridge National Laboratory</i> "Cellulose Nanocrystal Hydrogel Particles and Capsules from Single and Double Emulsion Drops" - Carlos Martinez , <i>Purdue University</i> "Mesoscale Modeling of the Interfacial Mechanics of Nanocellulose Composites" - Sinan Ketten , <i>Northwestern University</i> | Grafting II Session Chair: Usha Devi Hemraz, <i>National Research Council of Canada</i> Grafting Polyolefins Onto Cellulose Nanocrystals and Preparation of Reinforced Polyethylene Nanocomposites" - Yaman Boluk , <i>University of Alberta</i> CNCs-PEHMA Nanomaterials for Applications in Thermoplastics" - Wadood Y. Hamad , <i>FPIInnovations</i> "Flame Retardant Modification of Natural Products" - Gamini Mendis , <i>Purdue University</i> | |
| 5:30 - 7:00 | Poster Session & Student Poster Competition Sponsored by Verso Corporation - Poster Detail Included at the End of the Program Schedule | | |

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| Thursday, 25 June 2015 | | | |
|------------------------|--|--|---|
| 8:00 - 9:30 | Specialty Applications I Session Chair: Alan Rudie, <i>National Research Council of Canada</i> | Colloids I: Interface and Self-Assembly Session Chair: Isabelle Capron, <i>French National Institute for Agricultural Research</i> | Renewables III Session Chair: Alain Dufresne, <i>Grenoble Institute of Technology</i> |
| | "Alkenylated Cellulose Nanocrystals for Applications in Structural Foam and Rubber" - Wadood Y. Hamad , <i>FPIInnovations</i> | "Pickering Emulsions Stabilised by Oxidised Cellulose" - Yun Jin , <i>University of Bath</i> | "Removal of Nickel Ions from Aqueous Solution by Application of Electrospun Chitosan-Polyethylene Oxide Membranes" - Ichrah Lakhndhar , <i>UQTR</i> |
| | "Transparent Gas Barrier Materials from Chitin Nanofibers" - Carson Meredith , <i>Georgia Institute of Technology</i> | "Encapsulation of π -Conjugated Polymers by Fungal Janus Surfactants" - Cornelia Rosu , <i>Georgia Institute of Technology</i> | TEMPO Mediated Oxidation of Bagasse Pulp: Study on Nanogel, Nanopaper and Nanofibrils Reinforcing Capabilities - Seyed Rahman Djafari Petroudy , <i>Shahid Beheshti University (SBU), IRAN</i> |
| | "The Influence of Cellulose Nanocrystals on the Rheology of Oil Well Cement Paste" - Yaman Boluk , <i>University of Alberta</i> | "Self-Assembly of Cellulose Nanocrystals Towards Enhanced Property Control" - Jairo A. Diaz , <i>Purdue University</i> | "A Green Approach for Obtaining Nanocellulose from Sugarcane Bagasse Organosolv Pulp" - Beatriz Santucci , <i>Grenoble INP Pagora</i> |
| | "Flame Retardant Coatings Based on Carbohydrates, Nanoclay, and Borate Salts" - Douglas Fox , <i>American University</i> | "Effect of Ionic Strength on the Viscosity of Cellulose Nanocrystal Suspensions" - Stephanie Beck , <i>FPIInnovations</i> | |
| 9:30 - 10:00 | Break | | |
| 10:00 - 11:30 | Specialty Applications II Session Chair: Wadood Hamad, <i>FPIInnovations</i> | Colloids II: Viscoelastic Behaviour of Cellulose Nanomaterials in Suspension Session Chair: Stephanie Beck, <i>FPIInnovations</i> | Biomedicals I: Drug Delivery Applications Session Chair: Johan Foster, <i>Virginia Tech</i> |
| | "Cellulose Nanocrystals and Nanofibers for Renewable Active Materials" - Jaehwan Kim , <i>Inha University</i> | "The role of Xylan in Softwood Pulp on the reaction rate of TEMPO-mediated oxidation and the rheology of the nanocellulose (NFC) gel" - Katarina Dimic-Misic , <i>Aalto University</i> | "Continued Release of Antibacterial Agents Using Cyclodextrin and Cellulose Nanocrystals" - Daniele Oliveira De Castro , <i>Grenoble INP Pagora</i> |
| | "High Performance Barrier Materials Made from Polyamide – Epichlorohydrin Resin Crosslinked Cellulose Nanofibrils" - Sudhir Sharma, Yulin Deng , <i>Georgia Institute of Technology</i> | "Rheological Property Changes of Pigmented Micro and Nano-Fibrillated Cellulose Suspensions During Dewatering" - Michel Schenker , <i>Omya International AG</i> | "Biosynthesized Nanocellulose for Dura Mater Repair – from Science to GMP Manufacturing" - Wojciech Czaja , <i>DePuy Synthes (Companies of J&J)</i> |
| | "Industrial applications of Melodea's CNC in packaging and composite foams" - Shaul Lapidot , <i>Melodea Ltd.</i> | "Engineering the colloidal structure of cellulose nanofibres using polyelectrolytes and varying ionic strength to control filtration and sheet properties" - Warren J. Batchelor , <i>Monash University</i> | "Contact Active Antimicrobial Surface Produced by Surface Quaternised Cellulose Nanofibrils" - Julien Bras , <i>Grenoble INP Pagora</i> |
| | "Surfactant and Polymer-Enhanced CNC Pickering Emulsions, Gels and Oil Powders" - Emily Cranston , <i>McMaster University</i> | "Use of Suspension Gel Point as a Measure of the Quality of the Cellulose Nanofibres Prepared from Spinifex Grass Using Different Conditions" - Alireza Mayahi , <i>The University of Queensland</i> | "New Nanocellulose Based Materials for Stem-Cells Culture" - Julien Bras, Megan Smyth , <i>Grenoble INP Pagora</i> |
| 11:30 - 1:00 | Lunch (on your own) | | |

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| | Standards for Cellulosic Nanomaterials Session Chair: World Nieh, <i>US Forest Service</i> | Colloids III: NFC for Barrier Properties: Membranes and Sorption Aspects Session Chair: Warren Batchelor, <i>Monash University</i> | Biomedicals II: Biocompatibility Session Chair: Orlando Rojas, <i>Aalto University</i> |
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| 1:00 - 2:30 | <p>Update on ISO TC6 Cellulosic Nanomaterials Task Group - Jean Bouchard, <i>FPIInnovations</i></p> <p>ISO TC 229 Technical Report: Nanotechnologies – Characterization of Cellulose Nanocrystals – Linda Johnston, <i>NRC</i></p> <p>ISO TC 229 New Work Item: Standard Terms and Their Definition for Cellulose Nanomaterial – World Nieh, <i>US Forest Service</i></p> <p>Plans for TAPPI EHS Standards Development – Jo Anne Shatkin, <i>Vireo Advisors</i></p> <p>----- After the presentations, breakout groups will meet to discuss different aspects of standards development.</p> | <p>"Barrier Film Based on Cellulose Nanofibers and Tempo-Oxidized Cellulose Nanocrystals" - Julien Bras, <i>Grenoble INP Pagora - LGP2</i></p> <p>"Characterization of Pore Size Distribution in Nanofibrillated Cellulose-Based Membranes: Assessment of Different Porosimetry Techniques" - Orsolini Paola, <i>EMPA</i></p> <p>Water Sorption in Microfibrillated Cellulose (MFC) - Marco Giacinti Baschetti, <i>University of Bologna</i></p> | <p>"In Vitro Cytocompatibility Study of Nanocellulose" - Yuan Lu, <i>Oak Ridge National Laboratory</i></p> <p>"Better, Stronger, Faster... Implantable Structured and Functional Bionanocomposite Materials" - Johan Foster, <i>Virginia Tech - Material Science and Engineering</i></p> <p>"Chitin Nanotubes Based Scaffolds for Neuronal Cell Adhesion" - Sameer S Rahatekar, <i>University of Bristol</i></p> |
| 2:30 - 3:00 | Break | | |
| 3:00 - 4:30 | <p>Panel Discussion</p> <p>Panelist will share perspectives on the advances needed in research, cross-industry collaboration, and other factors to develop commercial markets for cellulosic nanomaterials. Moderator: Sean Ireland, <i>Verso Corporation</i> Panelists: Shaul Lapidot, <i>Melodea Ltd.</i>, Johan Foster, <i>Virginia Tech</i></p> | | |

Wednesday, 24 June 2015

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| 5:30 - 7:00 | <p>Poster Session & Student Poster Competition Sponsored by Verso Corporation Session Chair: Robert Moon, <i>USDA Forest Service</i></p> <p><i>Flax and Hemp Advanced Fibre Based Composites</i> Marcos Latorre, ITENE</p> <p><i>Cereal waste valorisation through development of functional key fibres to innovate in fibre packaging materials</i> Miriam Gallur, ITENE</p> <p><i>Preparation of modified cellulose powders via use of spray-drying technique</i> Sofiya Shopova, ITENE</p> <p><i>Cellulose nanomaterial-based cooperative chemocatalysts for acid-base catalyzed carbon-carbon bond forming reactions</i> Nathan Ellebracht, Georgia Institute of Technology</p> <p><i>Valorization of Tunisian Vegetal Wastes as a Source of Cellulose and Cellulose nanocrystal</i> Alain Dufresne, Grenoble Institute of Technology</p> <p><i>Mechanical and thermal properties of nanofibrillar cellulose from Posidonia oceanica reinforced styrene butadiene rubber</i> Alain Dufresne, Grenoble Institute of Technology</p> |
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Fluorescence methods to probe CNC distribution in polymer composites

Tianyang Leng, National Research Council

Renewable Biomaterials to Encapsulate and Align Synthetic Semiconducting Polymers

Bailey Risteen, Georgia Institute of Technology

Comparative Properties on Highly Transparent All-Cellulose Nanopaper Prepared by Sulfuric Acid Pretreatment and TEMPO-Mediated Oxidation for Energy Devices

Xiuxuan Sun, Louisiana State University

Chitin nanofibers as bio-based nanopolymer for film & coating applications

Mohammadreza Dehghani, Gorgan University of Agricultural Sciences and Natural Resources

Self-organization behavior of Sugar-based Polyamides in Strong Polar Solvents?

Cornelia Rosu, Georgia Institute of Technology

Evaluation of occupational nanoparticles exposure to human and its health risks

Muhammad Ilyas, KFUPM

Morphology and selected properties of papermaking fines

Jerome Colson, University of Natural Resources and Life Sciences

Advanced approaches for polymer characterization

Tom C. Lundin, Kemira

Aqueous foams stabilized by cellulose particles and a small amount of oil

Yi Zhang, Georgia Institute of Technology

Development of Microcapsules Containing Surface Modified Cellulose Nanocrystals for Optical Applications

Youngman Yoo, Purdu University

Cellulose nanocrystals reinforced silica aerogels: microstructure and mechanical properties

Jingjing Fu, University of Tennessee

Investigation of nanoporous carbon synthesized from cellulose nanocrystals and lignin

Yujie Meng, University of Tennessee

Biocompatible Multi-Membrane Hydrogels from Cationic Cellulose Nanocrystals and Anionic Alginate as Drug Delivery

Alain Dufresne, Grenoble Institute of Technology

Protein-assisted active electronics incorporating semiconducting polymers on flexible and foldable cellulose substrates

Cornelia Rosu, Georgia Institute of Technology

Effects of surface treatment on the mechanical properties of cellulose nanocrystal reinforced liquid epoxidized natural rubber toughened unsaturated polyester

Hanieh Kargarzadeh, University National Malaysia (UKM)

Removal of heavy metal through lignocellulosic waste reinforced lignin-TEOS based nanocomposites

Kumari Shweta, Guru Ghasidas

Development of Manufacturing Process of Cellulose Nano Fiber And Its Application For Transparent Sheets And Composites

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Ikue Honma, Oji Holdings Corporation

Preparation of Poly(lactic acid)/Cellulose Nanocrystal Composites by Melt Extrusion Method

Liliane Cristina Battistola, University of Campinas

Microstructure and mechanical properties of cellulose nanofibrils foams

Florian Martoia, Univ. Grenoble Alpes/CNRS, LGP2

Acid Induced Flocculation of Flame Retardant Coatings Based on Alginate and Nanoclay

Douglas Fox, American University

Drying and Redispersing Nanocellulose for Use in Transparent Composites

Alda Kapllani, Army Research Laboratory

Polyacrylonitrile/Cellulose Nanocrystal Composite Films

Jeffrey Luo, Georgia Institute of Technology

Nanocellulose one-pot surface hydrophobization via transesterification with triacylglycerols

Maria Mercedes Gonzalez-Bernal, Universidad Industrial de Santander

Grafting modification of cellulose nanofibrils by emulsion polymerization

Arie Tri Nugroho Mulyadi, Georgia Institute of Technology

Cationic poly(2-aminoethylmethacrylate) and poly(N-(2-aminoethylmethacrylamide)) modified cellulose nanocrystals:

Synthesis, characterization, cytotoxic and inflammatory activities

Rajesh Sunasee, State University of New York at Plattsburgh

Dye adsorption behavior of nanofibrillated cellulosic material

William Tze, University of Minnesota

The Characterization method for determining the re-dispersibility of dried Cellulose Nanofibers (CNFs) in water by using colloidal particle

Takeshi Nakatani, Nippon Paper Industries Co. Ltd.

Potential for industrial level hydrogen gas production using water, sunlight irradiation, and photocatalytic inorganic

semiconductor nanoparticles suspended in cellulose fibers

Lewis Luo, University of Washington

Comparative performance of enzyme-mediated preparation of Nanocellulose

Valdeir Arantes, University of Sao Paulo

Extraction and characterization of nanocellulose structures from linter Dissolving Pulp

Somayeh Ghasemi, Michigan Technical University

Application of Carbonate Buffer Solution in TEMPO-Mediated Oxidation

Zhu Long, Jiangnan University

Polysulfone Nano-composite membranes for water treatment from petroleum sources

Diakanua Nkazi, University of the Witwatersrand

Lignin as a Green Reinforcing Agent for Silicone Elastomers

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Jianfeng Zhang, McMaster University

High Wet Strength and Super Hydrophobic Nanofibre Barriers for Packaging Applications

Warren J. Batchelor, Monash University

Cellulose nanofibrill-derived separator membranes for lithium-ion batteries: Effective strategies for control of cellulose network channels

Jung-Hwan Kim, UNIST

Exploiting Colloidal Interfaces for Improved Dispersion, Performance, and Pot Life in Cellulose Nanocrystal/Waterborne Epoxy Composites

Natalie M. Girouard, Georgia Institute of Technology

Development, Processing, and Novel Applications of Sustainable Nanocellulose Gel

Yunsang Kim, University of Georgia

Potential Use of Nanocellulose in High Volume Applications: Challenges and Limitations

Mark Miller, Georgia Institute of Technology

Conformal Metallic Coatings on Cellulosic Materials

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