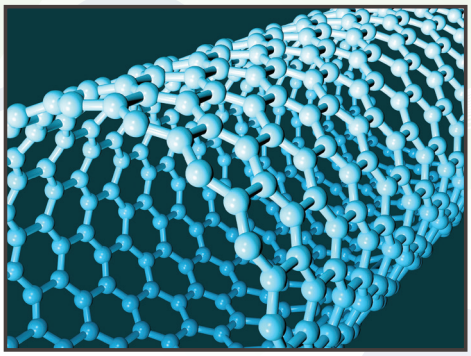
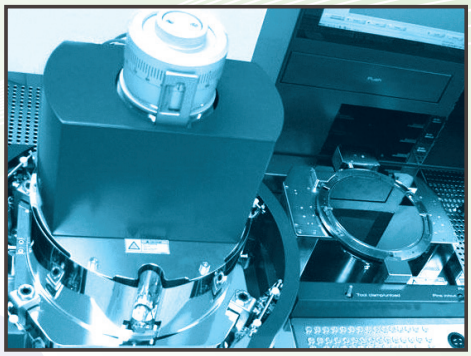
Register at tappi.org/15nano

2015 TAPPI International Conference on Nanotechnology for Renewable Materials

22-25 June, 2015 | Hyatt Regency | Atlanta, GA





Resources to Launch Your Innovations

Knowledge

- Over 110 technical presentations
- Energy, Electronics and Biological Devices Symposium
- Keynote presentations from American Process Inc. and Canada's National Institute of Technology
- Tour of American Process Inc.'s Thomaston Biorefinery and new nanocellulose demonstration line

Networking

- Visit over 30 posters at the reception and Student Poster Competition
- Join over 200 delegates from around the world
- View products and meet experts at the Tabletop displays
- Conference dinner at the Georgia Aquarium

100 YEARS OF INDUSTRY SERVICE
TAPPI 100 YEARS
A CENTURY OF ACHIEVEMENT
1915-2015

The 2015 Conference Features an Expanded Technical Program:

Three concurrent tracks focusing on Fundamentals and Applications. Sessions include:

- Metrology
- Characterization
- Grafting
- Colloids
- Markets and Trends
- Demo Scale
- Pilot Scale
- Composites
- Industry Applications

Symposium on Energy, Electronics and Biological Devices from Nanocellulose Materials • Wednesday, 24 June 2015

Symposium organizers:
Liangbing Hu • University of Maryland, College Park
Junyong Zhu • USDA Forest Product Lab

20 leading experts provide the latest findings on using renewable nanomaterials as supercapacitors, solar cells, light-emitting displays, and other devices.

Conference Special Events

Tour of API's Thomaston Biorefinery and New Nano Demonstration Line
Monday, 22 June 2015 • 9:30 a.m. – 2:30 p.m. • Tour is sponsored and hosted by API

Please Note: Space is limited to 100 participants. Additional $20 registration fee. Pre-registration is required. Lunch will be provided. Buses to depart hotel at 9:30 a.m. Tour begins at 11:00 a.m.

American Process Inc.'s (API) Thomaston Biorefinery (3.5 dry tons/day biomass throughput) produces nanocellulose, pulp, cellulosic sugars, cellulosic ethanol, and native lignin from a variety of biomass feedstocks (HW, SW, agricultural residues, etc) using their patented AVAP® technology. The plant's new nanocellulose demonstration line produces cellulose nanofibrils, cellulose nanocrystals, and lignin-coated, hydrophobic varieties of each directly from biomass. The facility is situated on eight acres and includes 41,000 square feet of manufacturing space along with API's corporate R&D laboratory.

Poster Reception and Student Poster Competition
Wednesday, 24 June 2015 • 6:30 p.m. – 8:00 p.m.

Visit over 30 presentations which focus on additional applications, characterization and functionalization of cellulose and other renewable nanomaterials.

Each year the Student Poster Competition draws multiple submissions. Winners are announced at the conference and cash prizes and certificates are awarded to the first and second place team winners. This year's competition is sponsored by Verso Corporation.

Conference Dinner at the Georgia Aquarium
Tuesday, 23 June 2015 • 6:30 p.m. – 10:00 p.m.

Additional $75 Registration Required. Includes drinks, dinner, dessert and a ticket to explore the aquarium. Limited to 125 participants.

Join us for an elegant dinner with your colleagues, both new and old. Visit the Georgia Aquarium - which features more animals than any other aquarium - in more than ten million gallons of water. Through a path of more than sixty exhibits, the Aquarium tells a global water story, with features modeled after the greatest zoos and aquariums in the world. Each majestic exhibit is designed to inspire, entertain and educate.

In addition to your dinner, you'll have general admission to the entire Aquarium including whale sharks, manta rays, penguins, beluga whales, bottlenose dolphins and more.

2015 Conference Co-Chairs:

Yaman Boluk
University of Alberta (Canada)

Alain Dufresne
Grenoble Institute of Technology (France)

Sean Ireland
Verso Corporation (USA)

Noteworthy Keynotes

Dr. Marie D'Iorio
Executive Director, National Institute for Nanotechnology
Tuesday, 23 June 2015

Marie D'Iorio is the Executive Director of the National Institute for Nanotechnology, Professor of Physics and Assistant VP-Research (Nanotechnology) at the University of Alberta. Dr. D'Iorio has championed a number of large collaborative programs, in partnership with government departments, industry and academia to accelerate photonics and nanotechnology deployment in the ICT, Construction, and Energy sectors.

Dr. Theodora Retsina
CEO, American Process Inc.
Wednesday, 24 June 2015

Dr. Theodora Retsina is the CEO of American Process Inc. (API). API focuses on value enhancement of the biomass industries through process integration, biorefinery technology applications and value engineering.

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Thank You to This Year's Sponsors

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AMERICAN PROCESS

Silver Sponsors

Georgia Tech Renewable Bioproducts Institute

FOREST SERVICE U S DEPARTMENT OF AGRICULTURE

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THE MATERIALS SCIENCE COMPANY ®

Interested in Sponsorship?

Download the prospectus from www.tappi.org/15nano or contact Lisa Stephens at lstephens@tappi.org or +1-770-209-7313 for details.

Student Poster Competition Sponsor

VERSO®

Welcome Reception Sponsor

FPInnovations

Media Partners

TAPPI JOURNAL

Paper360°

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TAPPI International Nanotechnology Division

Conference Schedule:

Monday - 22 June 2015

9:30 a.m – 2:30 p.m. • American Process Tour (limited to 100)
5:30 p.m. – 6:30 p.m. • Welcome Reception

Tuesday - 23 June 2015

8:00 a.m – 5:30 p.m. • Technical Presentations
6:30 p.m. – 10:00 p.m. • Conference Dinner

Wednesday - 24 June 2015

9:00 a.m – 6:30 p.m. • Technical Presentations
6:30 p.m. – 8:00 p.m. • Reception & Poster Session

Thursday - 25 June 2015

8:00 a.m – 5:30 p.m. • Technical Presentations

Build your Knowledge, Grow Your Network

Join TAPPI's International Nanotechnology Division

Launched in 2011, TAPPI's International Nanotechnology Division is the hub of all things nano. The Division leadership has launched several new committees to foster networking, collaboration, and support the growth of this emerging sector.

New to Nano?

- Visit the **www.tappinano.org**, the website for TAPPI's International Nanotechnology Division including links to summaries of past conferences.
- Read the short summaries in the TAPPI PRESS publication *Production and Application of Nanocellulose Materials* for a primer on research activities.
- Sign up for Nano360˚, the Division's electronic newsletter that delivers updates on commercial and research activities.

Conference Bookstore

Certain publications from TAPPI will be available to all attendees, most at a "conference only" discount. You can purchase these books when registering and pick them up when you arrive at the conference.

2011 TAPPI International Conference on Nanotechnology for Renewable Materials Proceedings CD
Order Code: 11NANOCD
Member Special Conference Price: $60
Non-member Special Conference Price: $100

2012 TAPPI International Conference on Nanotechnology for Renewable Materials Proceedings CD
Order Code: 12NANOCD
Member Special Conference Price: $90
Non-member Special Conference Price: $127

Nanotechnology Health and Environmental Risks, Second Edition
Order Code: 13NANOENV
Member Special Conference Price: $42
Non-member Special Conference Price: $52

Production and Application of Nanocellulose Materials
Order Code: 0101R332
Member Special Conference Price: $129
Non-member Special Conference Price: $189

The Conference APP Get social!

All of the Conference info at your fingertips:

- **Easy access to the conference schedule**
- **Get speaker information**
- **Find exhibitors on the show floor**

Support Student Engagement

Help students attend this year's conference!

For a $1,000 sponsorship, organizations can help tomorrow's leaders learn today. The sponsorship will cover part of one TAPPI Student member's travel expenses, registration and accommodations. Please see the Conference Prospectus for more details.

Preliminary Technical Program

Subject to change. For the latest updates visit **www.tappi.org/15Nano.**

Monday - 22 June 2015

9:30 - 2:30 — **Thomaston Biorefinery Tour - pre-registration required (limited to 100 persons)**

6:30 - 7:30 — **Welcome Reception Sponsored by FPInnovations**

Tuesday - 23 June 2015

8:00 - 9:00 — **Welcome and Opening Keynote Presentation**
Marie D'Iorio, Executive Director, National Institute for Nanotechnology

9:00 - 10:30

Composites I
Session Chair: Open

Design and Characterization of Cellulose Nanocrystals Enhanced Epoxy Hardeners
Shane Peng, Purdue University

Use of Order of Addition to Improve CNC Dispersion and Emulsion Stability in Waterborne Epoxy Formulations
Carson Meredith, Georgia Institute of Technology

Investigating the Interphase in PLA/CNC Composites
John Simonsen, Oregon State University

Process-Structure-Property Relationship of Cellulose Nanocrystal / Polylactic Acid Nanocomposite Films
Erin M. Sullivan, Georgia Institute of Technology

Lab & Pilot Scale I
Session Chair: Open

Microfibrillated Cellulose as Cost-Effective Substitute for CMC in Paperboard Applications
Sinke Henshaw Osong, Mid Sweden University

Research, Development, Scale-Up, Production and Selected Applications of FiberLean™ Microfibrillated Cellulose/ Mineral Composite for Paper and Board Applications
David R. Skuse, Imerys

Effect of Carboxy-Methyl-Cellulose (CMC) as a Dispersing Agent for Micro-Nano Fibrillated Cellulose (MNFC) onZ-Structured TMP Paper and MNFC Films Properties
Mohamed Ali Charfeddine, Lignocellulosic Materials Research Centre/UQTR

Optimizing the Microstructure of MFC Composite Paper for Improved Dewatering and Sheet Properties Juuso
Johannes Rantanen, Aalto University

Characterization: Thermal, Mechanical and Surface Properties of Cellulosic Nanomaterials
Session Chair: Emily Cranston, McMaster University

Comparative Kinetic Study of the Thermal Decomposition of Nanocellulose Produced by H2SO4 Hydrolysis, TEMPO, and AVAP Processes
Jamila Marshall, Clark Atlanta University

Characterization of Cellulose Nanomaterials and Cellulosic Biomass with the Atomic Force Microscope
Ryan Wagner, NIST

Effects of Electron Beam Treatment on Nano-Crystalline Cellulose Properties
Yung B. Seo, Chungnam National University

2D NMR Identification of Sulfate Group on Cellulose Nanocrystals
Teng Xu, Auburn University

10:30 - 11:00 — **BREAK**

11:00 - 12:30

Composites II
Session Chair: Open

Manufacturing of Cellulose and Chitin Nanocomposite Fibres Using Ionic Liquids and Environmentally Benign Solvents
Sameer S. Rahatekar, University of Bristol

Drying Techniques for Improved Redispersion of Cellulose Nanocrystals in Transparent Media
Jim Snyder, U.S. Army Research Laboratory

MFC-Based Composite Films for Gas Barrier Applications
Caglar Mericer, University of Bologna

High Pressure Microfluidization Reduces Hydroxypropyl Methylcellulose (HPMC) Molecular Weight But Improves Mechanical Properties of Microcrystalline Cellulose (MCC)-Reinforced HPMC Films
Caio Gomide Otoni, Embrapa Instrumentacao

Lab & Pilot Scale II
Session Chair: Open

Preparation of Dried Cellulose Nanofiber Materials Which Are Easily Re-Dispersed in Water
Hiroaki Namba, Nippon Paper Industries Co. Ltd.

Experience From First Commercial Cellulose Nanofibril Production Plant
Michael A. Bilodeau, University of Maine

Strategic Development for Optimization of Cellulose Nanocrystals (CNC) Production
Christophe Danumah, PhD, Alberta Innovates - Technology Futures

Production, Application Development and Commercialization of Cellulose Filament (CF)
Balazs Tolnai, Kruger Inc.

12:30 - 2:00 — **LUNCH & PRESENTATION FROM GEORGIA INSTITUTE OF TECHNOLOGY/RENEWABLE BIOPRODUCTS INSTITUTE**

Program continues on next page

2015 TAPPI International Conference on Nanotechnology for Renewable Materials
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Preliminary Technical Program (continued)

Tuesday - 23 June 2015

2:00 - 3:30

Composites III
Session Chair: Open

Thermoplastic Nanocomposite Films Using Micro- and Nano-Sized Cellulose Reinforcing Agents from Wood Fibers and Recycled Cotton Fabric
Richard A. Venditti, Jr., North Carolina State University

Bio-Reinforced Composites for Additive Manufacturing: Nanocellulose-Termoplastic Composites
Halil Levent Tekinalp, Oak Ridge National Laboratory

Biodegradable Cellulosic Nanocomposites
Qingzheng Cheng, Auburn University

Lab & Pilot Scale III
Session Chair: Open

Laboratory and Pilot-Scale Production of Cellulose Nanocrystals at Alberta Innovates - Technology Futures
Frank J. Tosto, Alberta Innovates Technology

Nanocellulose: Technology, Applications and Markets
Jack Miller, Market-Intell LLC

Analyzing the Future Applications of Nanocelluloses
Jesse Kautto, Poyry Management Consulting Oy

Technology Showcase
Reserved for Exhibitors/ Sponsors

Presenting companies:
Masuko
USDA Forest Products Laboratory
American Process
FP Innovations

3:30 - 4:00 BREAK

4:00 - 6:30

Composites IV
Session Chair: Open

High Performance Cement via Cellulose Nanocrystal Addition
Jeffrey P. Youngblood, Purdue University

Carbon Fibers from Polyacrylonitrile (PAN)/Cellulose Nanocrystals (CNCs)
Huibin Chang, Georgia Institute of Technology

CNT Incorporated Lignin/PAN Composite Carbon Fibers
H. Clive Liu, Georgia Institute of Technology

Developing Design Model for Cellulose Nano Crystal Composites
Meisam Shir Mohammadi, Oregon State University

Lab & Pilot Scale IV
Session Chair: Open

The Addition of CNF to Papermaking Furnish – Part 2
Donna A. Johnson, University of Maine

Cellulose Nanofibril Bound Laminated Paper Nanocomposites (Cellubound)
Mehdi Tajvidi, University of Maine

The Benefit of Cellulose Nanofibrils on Foam Formed Paper Properties
Katariina Torvinen, VTT Technical Research Centre of Finland

6:30 - 10:00 CONFERENCE DINNER AT THE GEORGIA AQUARIUM

Wednesday - 24 June 2015

9:00 - 10:00

Keynote Presentation: *Theodora Retsina, CEO, American Process Inc.*
Session Chair: *Liangbing Hu, University of Maryland*

10:00 - 11:30

Electronics I
Session Chair: *Liangbing Hu, University of Maryland*

Printed Microfluidic Channels and Reaction Stations for Enzymatic Testing Based on Functionalized Calcium Carbonate and Micro Cellulose
Roger C. Bollstrom, Omya International AG

Cellulose Nanocrystals-Based Electrolyte for Alkaline Fuel Cells with Superior Dimensional Stability
Yuan Lu, Oak Ridge National Laboratory

Nanocellulose for Printed Electronics and Energy
Bernard Kippelen, Georgia Institute of Technology

Multifunctional Paper and Fibers Based on Nanocellulose Materials
Hongli Zhu, University of Maryland

Metrology I: Novel Measurement Methods for Nanocellulose
Session Chair: *Jeff Gilman, NIST*

Preparation and Characterization of Silica Nanoparticle-Cellulose Nanofibre Composites
Warren J. Batchelor, Monash University

Mechanical Properties Characterization of Cellulosic Nanocrystal Films
Chelsea Davis, NIST

3D Infrared Chemical Images for Characterizing Cellulose Nanomaterials
Barbara Illman, U.S. Forest Service Forest Products Lab

On the Aggregated State of Pulp Cellulose Nanocrystals: Are CNCs Crystalline or Simply Consolidated Particles?
Umesh P. Agarwal, USDA Forest Products Laboratory

Renewables I
Session Chair: Open

Plastics with the Highest Native Lignin Contents are Nano-Biomaterials Composed of 13 nm Macromolecular Complexes
Simo Sarkanen, University of Minnesota

Fabrication of 'Cellulose Nano-Anemone'
Tetsuo Kondo, Kyushu University

Preparation of Cellulose Nanocrystal/ Silver Nanoparticle Composite Materials for Surface Enhanced Raman Spectroscopy Applications
Rongbing Du, National Institute for Nanotechnology

11:30 - 12:00 BREAK

Program continues on next page

Preliminary Technical Program (continued)

Wednesday - 24 June 2015

12:00 - 1:30

Electronics II
Session Chair: *Hongli Zhu, University of Maryland*

Mesoscale Modeling of the Interfacial Mechanics of Nanocellulose Composites
Sinan Keten, Northwestern University

Wood Cellulose Materials Toward Photonics, Electronics and Energy
Liangbing Hu, University of Maryland College Park

Biomass-Derived Carbon for Energy Storage
Xiulei (David) Ji, Oregon State University

Tuning Mechanical and Electrical Properties of Paper for Disposable Devices
Aaron Mazzeo, Rutgers University

Metrology II: Progress in Standards and Policy Development for Nanocellulose
Session Chair: *Chelsea Davis, NIST*

Cellulose Nanomaterials: Measurement Needs Workshop Report
Jeffrey W. Gilman, NIST

Biodegradability, Compostability and Safety of Cellulose Nanofibrils (CNF) and CNF Based Products
Heli J. Kangas, VTT Technical Research Centre of Finland

Readying Cellulose Nanomaterials for Commercialization: Analysis of Information Needs for Globally Harmonized Standard Safety Data Sheets
Jo Anne Shatkin, Vireo Advisors

In-situ Measurements of Size and Consistency of Cellulose Nanocrystals (CNCs) in a Suspension Using Rayleigh-Gans Scattering
Junyong Zhu, US Forest Products Laboratory

1:30 - 3:00 LUNCH

3:00 - 4:30

Electronics III
Session Chair: *Junyong Zhu, US Forest Products Laboratory*

Cellulose Nanofibrils: Opening Up One- Dimensional Opportunity for Flexible/High-Performance Lithium-Ion Paper Batteries
Sang-Young Lee, UNIST (Ulsan National Institute of Science and Technology)

Cross-linked Aerogels from Cellulose Nanocrystals as Universal Scaffolds for Supercapacitor Devices
Emily Cranston, McMaster University

Stable Top-Gate Organic Field-Effect Transistors on Cellulose Nanocrystal Substrates
Cheng-Yin Wang, Georgia Institute of Technology

Cellulose Nanofiber Materials for Electronic Devices
Nogi Masaya, Osaka University

Grafting I
Session Chair: Open

Low Cost Hydrophobic Surface Function-alization of Cellulose Nanomaterials with Lignin for Polymer Composite Reinforcement
Kim Nelson, American Process Inc.

Incorporation of Forest Derived Cellulose Nanomaterials into Polylactic Acid
Lionel Cross, Clark Atlanta University

Voltammetric Optimisation of TEMPO-Mediated Oxidation of Cellulose
Yun Jin, University of Bath

Improved Mechanical Properties of Polylactide Nanocomposites-Reinforced with Cellulose Nanofibrils Through Interfacial Engineering via Amine-Functionalization
Yuan Lu, Oak Ridge National Laboratory

Renewables II
Session Chair: Open

Control of Indium Tin Oxide Nanoparticle Morphology using Scraficial Templating Method
Yuan Lu, Oak Ridge National Laboratory

Cellulose Nanofibers Isolated from Thermomechanical Pulp with Low Energy Consumption
Gilberto Siqueira, EMPA

What Conformational Isomerism and Auxetics Typify Crystalline Cellulose?
Akwasi Asamoah, University Of Exeter

Improving Interfacial Compatibility of Cellulose Nanofibrils with Hydrophobic Polymers
Hong Dong, TKC Global / U.S. Army Research Laboratory

4:30 - 5:00 BREAK

5:00 - 6:30

Electronics IV
Session Chair: Open

Flexible Magnetostrictive Cellulose Nanofibril Membranes
Ronald C. Sabo, Jr., US Forest Products Laboratory

Energy Storage Devices Based on High Consistency Cellulose
Otto-Ville Kaukoniemi, VTT Technical Research Centre Of Finland

Development of Transparent Cellulose Nano Fiber Film for Flexible Displays
Takayuki Shimaoka, Oji Holdings Corporation

Grafting II
Session Chair: Open

Grafting Polyolefins Onto Cellulose Nanocrystals and Preparation of Reinforced Polyethylene Nanocomposites
Yaman Boluk, Ph.D., University of Alberta

CNCs-PEHMA Nanomaterials for Applications in Thermoplastics
Wadood Y. Hamad, FPInnovations

High Wet Strength and Super Hydrophobic Nanofibre Barriers for Packaging Applications
Warren J. Batchelor, Monash University

Flame Retardant Modification of Natural Products
Gamini Mendis, Purdue University

6:30 - 8:00 POSTER SESSION & STUDENT POSTER COMPETITION SPONSORED BY VERSO CORPORATION

Preliminary Technical Program (continued)

Thursday - 25 June 2015

8:00 - 9:30

Specialties I
Session Chair: Open

Alkenylated Cellulose Nanocrystals for Applications in Structureal Foam and Rubber
Wadood Y. Hamad, FPInnovations

Transparent Gas Barrier Materials from Chitin Nanofibers
Carson Meredith, Georgia Institute of Technology

The Influence of Cellulose Nanocrystals on the Rheology of Oil Well Cement Paste
Vivek Bindiganavile, University of Alberta

Flame Retardant Coatings Based on Carbohydrates, Nanoclay, and Borate Salts
Douglas Fox, American University

Colloids I
Session Chair: Open

Pickering Emulsions Stabilised by Oxidised Cellulose
Yun Jin, University of Bath

Encapsulation of π-Conjugated Polymers by Fungal Janus Surfactants
Cornelia Rosu, Georgia Institute of Technology

Self-Assembly of Cellulose Nanocrystals Towards Enhanced Property Control
Jairo A. Diaz, Purdue University

Effect of Ionic Strength on the Near Zero-Shear Viscosity of Cellulose Nanocrystal Suspensions
Stephanie Beck, FPInnovations

Renewables III
Session Chair: Open

Removal of Nickel Ions from Aqueous Solution by Application of Electrospun Chitosan-Polyethylene Oxide Membranres
Ichrak Lakhdhar, PhD, UQTR

TEMPO Mediated Oxidation of Bagasse Pulp: Study on Nanogel, Nanopaper and Nanofibrils Reinforcing Capabilities
Seyed Rahman Djafari Petroudy, Shahid Beheshti University (SBU), IRAN

A Green Approach for Obtaining Nanocellulose from Sugarcan Bagasse Organosolv Pulp
Beatriz Santucci, Grenoble INP Pagora

9:30 - 10:00 BREAK

10:00 - 11:30

Specialties II
Session Chair: Open

Cellulose Nanocrystals and Nanofibers for Renewable Active Materials
Jaehwan Kim, Inha University

Synthesis and Characterization of Silver Nanoparticles Loaded Lignin-Poly (Vinyl Alcohol) Electrospun Nanofibers for Multifaceted Applications
Keshaw Ram Aadil, Guru Ghasidas Vishwavidyalaya

High Performance Barrier Materials Made from Polyamide – Epicholorohydrin Resin Crosslinked Cellulose Nanofibrils
Sudhir Sharma, Yulin Deng, Georgia Institute of Technology

Colloids II
Session Chair: Open

Reducing the Xylan Content on TEMPO-NFC to Reveal Its influence on Morphology, Rheology and Consolidation of Nanocellulose
Katarina Dimic-Misic, Aalto University

Rheological Property Changes of Pigmented Micro and Nano-Fibrillated Cellulose Suspensions During Dewatering
Michel Schenker, Omya International AG

Engineering the Colloidal Structure of Cellulose Nanofibres Using Polyelectrolytes and Varying Ionic Strength to Control Filtration and Sheet Properties
Warren J. Batchelor, Monash University

Use of Suspension Gel Point as a Measure of the Quality of the Cellulose Nanofibres Prepared from Spinifex Grass Using Different Conditions
Alireza Mayahi, The University of Queensland

Biomedicals I: Drug Delivery Applications
Session Chair: Open

Continued Release of Antibacterial Agents Using Cyclodextrin and Cellulose Nanocrystals
Daniele Oliveira De Castro

Biosynthesized Nanocellulose for Dura Mater Repair – from Science to GMP Manufacturing
Wojciech Czaja, DePuy Synthes (Companies of J&J)

Contact Active Antimicrobial Surface Produced by Surface Quaternised Cellulose Nanofibrils
Julien Bras, Grenoble INP Pagora - LGP2

New Nanocellulose Based Materials for Stem-Cells Culture
Julien Bras, Megan Smyth, Grenoble INP Pagora - LGP2

11:30 - 1:00 LUNCH (ON YOUR OWN)

1:00 - 2:30

Standards Development for Cellulosic Nanomaterials
Session Chair: World Nieh, US Forest Service
Presentations to be announced shortly

Colloids III - Session Chair: Open

Barrier Film Based on Cellulose Nanofibers and Tempo-Oxidized Cellulose Nanocrystals
Julien Bras, Grenoble INP Pagora-LGP2

Characterization of Pore Size Distribution in Nanofibrillated Cellulose-Based Membranes: Assessment of Different Porosimetry Techniques
Orsolini Paola, EMPA

Nanocellulose-Enriched Membranes for Wastewater Purification
Vanja Kokol, University of Maribor

Water Sorption in Microfibrillated Cellulose (MFC)
Marco Giacinti Baschetti, University of Bologna

Biomedicals II: Biocompatability
Session Chair: Open

In vitro Cytocompatibility Study of Nanocellulose
Yuan Lu, Oak Ridge National Laboratory

Better, Stronger, Faster… Implantable Structured and Functional Bionanocomposite Materials
Johan Foster, Virginia Tech, Material Science and Engineering

Chitin Nanotubes Based Scaffolds for Neuronal Cell Adheshion
Sameer S. Rahatekar, University of Bristol

Cellulose Supports for Glucose Oxidase Immobilization for Medical Biosensors
Maria Auad, Auburn University

2:30 - 4:00 BREAK

4:00 - 5:30

Panel Discussion
Panelist will share perspectives on the advances needed in research, cross-industry collaboration, and other factors to develop commercial markets for cellulosic nanomaterials.

REGISTRATION

Register online at www.tappi.org/15nano or by contacting TAPPI's Membership Connection Center:

1-800-332-8686 (US) • 1-800-446-9431 (Canada)
+1-770-446-1400 (Worldwide) • +1-770-446-6947 (Fax)

Registration Fees.

All fees must be paid in US Dollars.

	On or before 10 April	11 April to 19 June	Onsite
FULL CONFERENCE**			
Member*	$955	$1,105	$1,197
Non-Member	$1,230	$1,435	$1,674
Join/Renew & Save	$1,169	$1,279	$1,371
Speaker - Full Conference	$675	$745	$857
Group Discount - Member (price per person for 3+ from same company)	$830	$830	$830
Group Discount - Non-Member (price per person for 3+ from same company)	$1,125	$1,125	$1,125
Group Discount - Join/Renew & Save $ (price per person for 3+ from same company)	1,004	$1,004	$1,128
Retired Member	$640	$640	$640
Retired Non-Member	$1,125	$1,125	$1,125
Student	$200	$205	$215
Student Join/Renew & Save	$235	$240	$250
SINGLE DAY**			
Single Day-Member*	$495	$495	$662
Single Day-Non-Member	$700	$700	$838
Single Day- Join/Renew & Save	$669	$669	$836
Gala (Not included in registration)	$75	$75	$75
Biorefinery tour	$20	$20	$20

* Member discounts are available to members of TAPPI in good standing.
** Conference Dinner ticket not included with conference registration. Must purchase a separate ticket to attend.

Cancellation and Refunds

If you find that you have to cancel, your full registration fee will be refunded if TAPPI's Registration Department receives written notification fax acceptable at +1.770.209.7206 by 10 April 2015. Please note: There will be a 50% refund for all written cancellations made after 10 April but no later than 5 business days prior to the start of the conference (15 June 2015). Understandably, after this time, no refunds can be issued. Substitutions, however, will be accepted at any time without a penalty.

100% - Cancellation received by 10 April 2015

50% - Cancellations received after 11 April and no later than 15 June 2015

NO REFUND - Cancellations received after 15 June 2015

2015 TAPPI International Conference on Nanotechnology for Renewable Materials
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100 YEARS OF INDUSTRY SERVICE — TAPPI 100 YEARS A CENTURY OF ACHIEVEMENT — 1915-2015

Hyatt Regency Atlanta

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Atlanta, GA 30303
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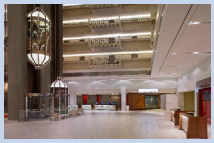

Hyatt Regency Atlanta, with its signature Polaris blue dome, has been a landmark destination since its grand opening on Peachtree Street in 1967. In 2011, the hotel completed a historic $65 million transformation that renewed Hyatt Regency Atlanta's look and feel, as well as its restaurants and dining experiences, technology and functionality.

TAPPI has arranged for discounted rate of $159+ tax at the Hyatt Regency Atlanta for all conference delegates. In order to take advantage of the negotiated discounted rate, you must make your reservation before 30 May 2015 and be sure to mention that you are with TAPPI's Nanotechnology Conference. You will also receive complimentary Wi-Fi in all guest rooms.

Cutoff Date: 30 May 2015
Hotel Reservations:
(404) 577-1234

Online:
http://tinyurl.com/15Nanohotel

Traveling to Atlanta

Airport

Hartsfield-Jackson Atlanta International Airport (ATL). Visit the Hotel website for directions to the hotel from the airport.

MARTA

When Traveling via MARTA from the Airport:
Take the northbound train to the Peachtree Center Station stop, one stop north of the Five Points transfer station. Exit the train and take the escalator up towards Peachtree Center Mall. Once inside the mall, follow the signs to the covered walkway into the hotel.