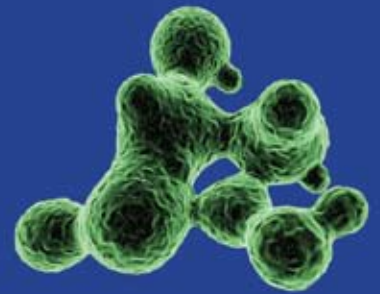
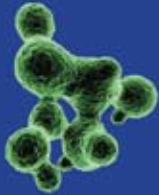




THINK SMALL



2010 INTERNATIONAL CONFERENCE ON NANOTECHNOLOGY FOR THE FOREST PRODUCTS INDUSTRY

27-29 September 2010
DIPOLI Congress Centre
Espoo, Finland

**Getting Down to Business
with Nanotech Products**

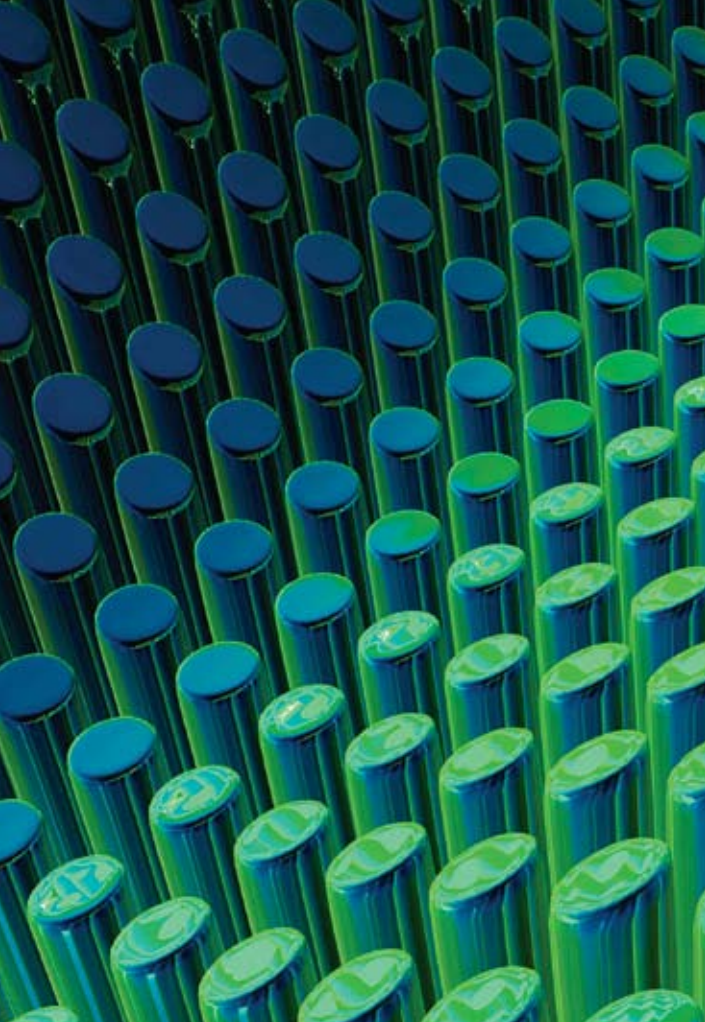


GROW BIG

www.tappi.org/10nano

Sponsored by





Derived from wood, nanocrystalline cellulose (NCC) and nanofibrillar cellulose (NFC) are generating increased interest from the scientific and business communities. These nanomaterials have unique properties, ranging from improving paper properties to producing unique bionanocomposites. As NCC and NFC are derived from a renewable, well-managed resource – trees – there is great commercial potential. TAPPI's annual Nanotechnology conference focuses on bringing the newest advances in the field to the technical program, promoting the versatility and promise of cellulose-based nanomaterials, and offering the technical community networking opportunities to advance development of these promising technologies.



For the first time, this annual meeting will be held outside of North America. Join industry experts, scientists, health and safety specialists, legal and government policy makers, and leading researchers from multiple disciplines to discover how nanotechnology can shape the next generation of value-added forest products.

Presentations at this year's conference will focus on several key thematic areas:

- Nanocellulosics and Nanocomposites
- Wood Products and Nanotechnology
- Consumer Perception/Governmental Regulation and Nanotechnology
- Biorefinery Concept in Nanocellulose Manufacturing
- Organized Structures, Thin Films and Interfacial Assemblies
- Computer Modeling
- Nanotech Coatings and New Nano-Enabled Functionalities
- Market Opportunities for Forest Based Nano Materials
- Product Demonstrations and Poster Sessions
- Updates from EU Nanoclusters and Publicly Funded Forest-Based Nanotech Center

Visit www.tappi.org/10nano for detailed descriptions about the themes.

You won't want to miss the keynote presentations including:



Dr. Hiroyuki Yano
*Professor, Research Institute
of Sustainable Humanosphere,
Kyoto University*

**Monday, 27 September 2010,
12:30-14:00**

Hiroyuki Yano is a Professor at the Research Institute of Sustainable Humanosphere, Kyoto University. He received his Ph.D. in wood science from Kyoto University in 1989. He joined Kyoto Prefectural University as assistant professor in 1987 and later moved to the Wood Research Institute at Kyoto University as associate professor in 1998. During 1997-1998 he was a Visiting Scientist at the Forest Products Laboratories at CSIRO, Australia.

He received the Young Scientist Award from the Japan Wood Research Society in 1989, Hayashi Jisuke Award from the Cellulose Society of Japan in 2005, and the Japan Wood Research Society Award from the Japan Wood Research Society in 2009. He is a fellow of the International Academy of Wood Science.

His research involves extraction of nanofibers from biomass resources such as wood, plant fibers, and crab and shrimp shells, and their utilization as a component of nanomaterials for optical and structural purposes.



Andriy Kovalenko
*Senior Research Officer, Group
Leader – Theory and Modeling,
NRC-NINT Adjunct Professor,
Department of Mechanical
Engineering, University of Alberta*

**Tuesday, 28 September 2010,
08:00-08:45**

Dr. Kovalenko is a leading, internationally recognized expert in theoretical and computational methods of modeling on multiple space and time scales, including statistical physics and electronic structure theory. His focus is development of theoretical methods capable of predicting the behaviour of nanosystems. He has proposed a new statistical-mechanical molecular theory of solvation, which bridges the gap between electronic structure, atomistic simulations, and system functioning. He has applied it to provide realistic description of physical and chemical properties and processes in various nanosystems: complex molecular liquids; electronic and solvation structure and thermodynamics in solution and at solid-liquid and liquid-liquid interfaces; chemical reactions and nanocatalysis in solution; electrochemistry of solutions sorbed in nanoporous materials; polymers in solutions and melts; transport of nanoparticles across biomembranes and liquid interfaces; self-assembly, conformational stability and aggregation of supramolecules and biomolecules in solution.



Hadi Mahabadi
*Vice President and Center Manager,
Xerox Research Centre of Canada
(XRCC)*

**Wednesday, 29 September 2010,
08:00-08:45**

Dr. Mahabadi joined Xerox in 1981 and has held a variety of managerial positions at XRCC. He has been instrumental in creating an environment to increase innovation and successful commercialization of many breakthrough materials technologies at XRCC. Examples include novel solid inks for Xerox ink jet printers and Emulsion Aggregation toner for many Xerox products introduced into the market after 2000.

Dr. Mahabadi's R&D leadership efforts earned many awards including two of Xerox Corporation's highest awards. He won the University of Waterloo's 2008 Alumni Achievement Medal. He was also ranked as #1 among PrintAction Magazine's 50 most influential Canadians in Graphic Art Communications for 2008 and 2009. Mahabadi was selected as a Fellow of the Chemical Institute of Canada, Canadian Academy of Engineering, International Union of Pure and Applied Chemistry. He recently became the Chair of the Chemical Institute of Canada.

Dr. Mahabadi has also been involved in helping to shape science and technology strategy and direction in Canada while advancing the science and technology agenda nationally and internationally. He has served on national and regional committees, taskforces, and boards of several science and technology related organizations.

Featured Session Speakers include:

Petri Vasara

Principal of New Technologies, Jakko Poyry Consulting (JPC)
Market Opportunities for Forest Based Nanomaterials Session
Wednesday, 29 September 2010, 09:00-10:30

Steffi Friederichs

Director, Nanotechnology Industries Association (NIA)
Consumer Perception/Regulation & Nanotechnology Session
Wednesday, 29 September 2010, 11:00- 12:00

8:00 - 8:45

1 CONFERENCE OPENING AND INTRODUCTION BY CO-CHAIRS

9:00 - 10:30

2 NANOTECH COATINGS AND NEW-NANO-ENABLED FUNCTIONALITIES - PLENARY

- Printed Electrodes on Tailored Paper Enable Electrochemical Functionalization of Paper, *Jouko Peltonen – ÅA*
- Thin Film Deposition Techniques - Steps Towards More Sustainable Packages, *Mika Vähä-Nissi-VTT*
- SUNPAP, Scale-up Nano Particles in Modern Papermaking, *Ulla Forsström – VTT*
- Amorphous and Crystalline Ultra Thin Films of Cellulose and Applications with Quartz Crystal Microgravimetry, Surface Plasmon Resonance and Other Surface Sensitive Techniques, *Orlando J. Rojas – North Carolina State University*

10:30 - 11:00

BREAK

11:00 - 12:00

3 NANOTECH COATINGS AND NEW NANO-ENABLED FUNCTIONALITIES- PART 2

- Inkjet Printing of Functional Nanoparticles, *Ramin R. Farnood – University of Toronto*
- Tactical Perception: Finger Friction, Surface Roughness and Perceived Coarseness of Printing Papers, *Mark W. Rutland – KTH*
- Ultra-Thin Coatings of Paper by Tailor-Made Nanoparticles, *Tiina Mypelö – Aalto University*
- Reduction of the Linting and Dusting Tendency of Newsprint by Using Nanocellulose Coatings, *Mikael Ankerfors – Innventia AB*

4 WOOD PRODUCTS AND NANOTECHNOLOGY

- Influence of Nano Coatings on the Hygroscopic Properties of the Wood, *Selamawit M. Fufa – Norwegian University of Science and Technology*
- Advanced Wood Products with Nanoengineered Surfaces, *Anne-Christine Ritschkoff, Salla Lämsä, Riitta Mählberg, Juha Mannila, and Juha Nikkola, VTT Technical Research Centre of Finland, Shaoxia Wang and Jouko Peltonen, Åbo Akademi University*
- Using High Resolution Solution-State NMR Spectroscopy to Characterize Nanoscale Wood Cell Wall Polymer Modifications, *Daniel J. Yelle – University of Wisconsin-Madison*
- Potential of Wood Fibres and Nanoparticles in Light-Weight Foams, *Anne Savolainen – VTT*

12:30 - 14:00

LUNCH – KEYNOTE: Potential of Cellulose Nanofiber-Based Materials, *Dr. Hiroyuki Yano, Professor, Research Institute of Sustainable Humanosphere, Kyoto University*

14:00 - 15:30

5 ORGANIZED STRUCTURES AND INTERACTIONS - PART 1: MATERIALS AND INTERACTIONS

- Adhesion and Nanotribology of Biofibres, *Mark W. Rutland – KTH*
- Cellulose Nanocrystals: Novel Templates for the Synthesis of Nanostructures, *Robert Moon – Purdue University*
- Heterogeneous Modification of Cellulose Nanocrystals and Surface Assemblies, *Ilari Filpponen – Aalto and NC State University*
- Nanofibrillar Cellulose - in Vitro Study of Cytotoxic and Genotoxic Properties, *Marja Pitkänen – VTT*
- Stability of Cellulose Nanocrystal Suspensions in Electrolyte and Polymer Solutions, *Yaman Boluk – University of Alberta*

6 CHARACTERIZATION TECHNIQUES- PART 1

- Cellulose Nanocrystal Size Distribution Determination by Transient Electric Birefringence, *John Simonsen – Oregon State University*
- Anisotropic Elasticity of Crystalline Cellulose: Atomistic Modeling and Experiments, *Ashlie Martini – Purdue University*
- Crystallinities of Nanocrystalline and Nanofibrillated Celluloses by FT-Raman Spectroscopy, *Umesh Agarwal – Forest Products Laboratory*
- Influence of Fibrillation Degree and Surface Grafting of Micro-Fibrillated Cellulose on Their Rheological Behavior in Aqueous Suspension, *Julien Bras – LGP2 Laboratory of Pulp and Paper Science*
- Microstructural Characterization of Cellulose Nanostructures Extracted from Different Sources, *Sandra K. Tadokoro, Aji P. Matthew, Kristiina Oksman – Luleå University of Technology*

15:30 - 16:00

BREAK

16:00 - 17:30

7 ORGANIZED STRUCTURES. PART 2: THIN FILMS AND INTERFACIAL ASSEMBLIES

- Ultra Thin Films of Oriented Cellulose Nanocrystals by Electric Field-Assisted Convective Assembly, *L. Csoka – University of West Hungary*
- Unusual Morphology in Ultrathin Cellulose Derivative Blend Films, *Laura Nyfors – Aalto University*
- Structure of Nanofibrillated Cellulose Monolayers at the Oil/Water Interface, *Xhanari Ka – Norwegian University of Science and Technology (NTNU)*
- Hydrophobisation of Pulp Fiber with Multilayering of Saponified Rosin and PAH, *Sungrin Lee – Seoul National University*

8 CHARACTERIZATION TECHNIQUES- PART 2

- Interfacial Micromechanics of Tunicate and Cotton Whisker Polymer Nanocomposites Using Raman Spectroscopy, *Dr. Stephen Eichhorn – University of Manchester*
- Influence of Fibrillation Method on the Character of Nanofibrillated Cellulose (NFC), *T. Pöhler¹, T. Lappalainen¹, T. Tammelin¹, P. Eronen², P. Hiekkataipale², A. Vehniäinen³, T.M. Koskinen¹, The Finnish Centre for Nanocellulosic Technologies, VTT Technical Research Center of Finland¹, Aalto University, School of Science and Technology², UPM-Kymmene Oyj³*
- Characterization of Nanofibrillated Cellulose Samples Using X-ray scattering, Microtomography, Scanning and Transmission Electron Microscopy, *Kirsi Leppänen – University of Helsinki*
- The Rheological Behavior of High-Aspect-Ratio Nanocelluloses from Softwood Flour, *Guan Gong – Luleå University of Technology*

17:30 - 19:00

9 POSTER SESSION, TABLETOP EXHIBIT AND PRODUCT DEMOS

Tuesday, 28 September

8:00 - 8:45

10 KEYNOTE ADDRESS: "THEORY, MODELING, AND SIMULATION ON MULTIPLE SCALES FOR NANOTECHNOLOGY APPLICATIONS"

Andriy Kovalenko – Senior Research Officer, Group Leader – Theory and Modeling, NRC-NINT and Adjunct Professor, Department of Mechanical Engineering, University of Alberta

9:00 - 10:30

11 NANOCELLULOSICS AND NANOCOMPOSITES - PLENARY

- Nanoscale Cellulose Fibrils – Potential for Further Extension of the Mechanical Property Range in Fibrous Networks, *Lars Berglund – KTH*
- TEMPO-Oxidized Cellulose Nanofibers Prepared from Chemical Wood Pulps, *Akira Isogai – University of Tokyo*

10:30 - 11:00

BREAK

11:00 - 12:30

12 COMPUTER MODELING – MULTISCALE MODELING METHODS FOR CELLULOSE STRUCTURE AND AGGREGATION

- Coarse-Grained Material Properties for Fiber-Based Materials from Computer Simulations, *Mikko Alava – Aalto University*
- Multiscale Modeling of the Solvation Structure and Thermodynamics of Chemically Modified Nanocrystalline Cellulose, *Stanislav R. Stoyanov – Los Alamos National Labs*
- Computational Perspective to Cellulose Nanofibrils Through Atomistic Simulations, *Ippo Vattulainen – TUT*
- Smoothed Dissipative Particle Dynamics Model for Predicting Self-Assembled Nano-Cellulose Fibre Structures, *David Vidal – FP Innovations*
- Cellulose Crystal Structure and Forcefields, *Malin Bergensträhle – Wallenberg Wood Science Center, Royal Institute of Technology, Stockholm, Sweden*

12:30 - 14:00

LUNCH

14:00 - 15:30

14 COMPUTER MODELING OF CELLULOSE PROPERTIES AND APPLICATIONS

- Multi-Scale Modeling Environment for Nanocellulose Applications, *Erkki Hellen – VTT*
- Multi-Scale Modeling of Biomass and Its Degradation, *S. Gnanakaran – Los Alamos National Labs*
- Molecular Modeling of Ionic Liquids Aimed for the Dissolution of Cellulose, *Empu Salonen – Department of Physics, University of Helsinki and Kai Nordlund Department of Applied Physics, Aalto University*
- New Simulation Approach to Mechanical Properties of Nanocellulose Aerogels, *Jukka Ketola – VTT*
- How to Flocculate Rapidly with Polyelectrolytes, *Jan Forsman – Luleå University of Technology*

15:30 - 16:00

BREAK

Tuesday Technical Program continued...

16:00 - 17:30

15 NANOTECH COATINGS AND NEW NANO-ENABLED FUNCTIONALITIES

- **NanoCoating Close to the Market**, *Moritz Eulenburg-Coatema Coating Machinery GmbH*
- **Using Thin-Crystal Engineered Kaolins to Enhance Mechanical Properties of Coatings**, *John Husband – Imerys*
- **Nano-Particle Products from New Mineral Resources in Europe**, *John Kettle, Juha Sarlin, Ali Harlin, Sebastian Teir, and Lea Räsänen – VTT*
- **Rheological Behavior of Different Bio-based Nanoparticles Suspensions**, *Julien Bras – Laboratory of Pulp and Paper Science*

17:30 - 18:30

17 POSTER SESSION, TABLETOP EXHIBIT AND PRODUCT DEMOS

19:00 - 21:30

CRUISE AND DINNER

Join your fellow delegates for a cruise to Suomenlinna, and dinner at the famous Walhalla Restaurant. Suomenlinna, one of islands off Helsinki, was built as a maritime fortress in the mid-18th century during the Swedish era. Today, it is a UNESCO World Heritage Site and one of Finland's most popular tourist attractions.

Restaurant Walhalla was built into the fortress as Helsinki prepared itself for the 1952 Olympic Games. The name of the restaurant is inspired by the Walhalla secret society that in the 1780s conspired against the Swedish king Gustav III. The name of the secret society, Walhalla, is from Scandinavian mythology, and is the place in the after world where heroes and warriors enjoyed an eternal feast.

A separate registration is required for this event. Registration includes roundtrip ground transportation, the round trip cruise and food and beverage. Cost is \$148, €122.

16 B NANOCELLULOSICS AND NANOCOMPOSITES - PART 3

- **Carrot Nanofibers vs. Wood Pulp Nanofibers: Morphological and Mechanical Properties**, *Gilberto Siqueira – Luleå University of Technology*
- **Fibre Spinning Nanocomposites Based on Low-Cost Racemic Polylactide/Bacterial Cellulose Nano-Whiskers**, *Alexander Bismark – Imperial College London*
- **New Nanocomposite Concept Based on Crosslinking of Hyperbranched Polymers in Cellulose Nanopaper Templates**, *Marielle Henriksson – KTH*

- **Cellulose Nanofiber-Reinforced Unsaturated Polyester as a Potential Substitute for Glass Fiber-Reinforced Plastics**, *Antonio Nakagaito – Kyoto University*
- **Applications of Nanofibrillated Cellulose in Polymer Composites**, *T. Zimmermann – Empa*

13 NANOCELLULOSICS & NANOCOMPOSITES - PART 2

- **Single Step Functionalisation of Cellulose to Produce All-Cellulose Nanocomposites**, *Alexander Bismark – Imperial College London*
- **Nanowhiskers Reinforced All-Cellulose Composite Gels**, *Lingyun Chen – University of Alberta*
- **The Effect of Nano-Fibrillated Cellulose on the Mechanical Properties of Polymer Films**, *Mike Bilodeau – University of Maine*
- **Films Impact of Micro/Nanofibrillated Cellulose Preparation on the Reinforcement Properties of Paper and Composites**, *Sandra Tapin-Lingua, Domaine Universitaire*
- **Surface Modification of Bacterial Cellulose Nanofibrils: Why Do Cellulose Nanofibrils Behave Differently When Modifying Freeze-dried or Never-dried Bacterial Cellulose?** *Koon Yang, Imperial College London*



Wednesday, 29 September

8:00 - 8:45

18 KEYNOTE ADDRESS: BIO BASED NANO PARTICLE AND GREENER PRINTING INDUSTRY, *Hadi Mahabadi – Vice President and Center Manager Xerox Research Centre of Canada*

9:00 - 10:30

19 NANOCELLULOSICS AND NANOCOMPOSITES – PART 4

- **Cellulose Nanocrystals as Reinforcement of Poly (Vinyl Alcohol) Nanocomposites**, *Maria S. Peresin – North Carolina State University*
- **Microfibrillated Cellulose Reinforced Semi-Crystalline Poly(lactic Acid) Composites: Thermal and Mechanical Properties**, *Lisman Suryanegara – Kyoto University*
- **Properties of Bionanocomposites Made from Poly(lactide) Latexes and Microfibrillated Cellulose**, *Karolina Larsson – Innventia AB*
- **Novel Approach for Fabricating Optically Transparent Composites from Crab Shell**, *Dr. Hiroyuki Yano – Kyoto University*

20 MARKET OPPORTUNITIES FOR FOREST BASED NANOMATERIALS

- **The Road Ahead for Forest-Based Nanomaterials**, *Petri Vasara – Poyry*
- **Printed Biofuel Cells**, *Maria Smolander – VTT*
- **Cellulose Nanofiber Based Composites for Use as Ligament or Tendon Substitute**, *Aji P Matthew – Luleå University of Technology*
- **The Potential of Cellulose Nanofibrils for Stabilizing Commercial Paints**, *Syverud Ka – PFI*

10:30 - 11:00

BREAK

Tuesday's Technical Program continues on next column...

Wednesday Technical Program continues on next page...

16 A PANEL NCC VS MFC

11:00 - 12:00

21 CONSUMER PERCEPTION/REGULATION AND NANOTECHNOLOGY – PLENARY

- TBA, Steffi Friedrichs – Nanotechnology Industry Association
- TBA, Antje Grobe – Risk Dialogue Foundation
- Three R's of Nano-Enabled Biomaterials and Bioproducts: Risk, Reward and Regulatory Issues, Lori Sheremeta – National Institute for Nanotechnology

12:00 - 13:30

LUNCH

13:30 - 15:00

22 INTERFACIAL MICROMECHANICS

- Adhesive Forces at Nanocrystalline Cellulose Surfaces, Roya R. Lahiji – University of Alberta
- Development of a Carrier System for Cellulose Nanofibrils (CN) in Polymer Composites, Alper Kiziltas – University of Maine
- Advanced AFM-based techniques for characterizing composite interphases, Siqun Wang – University of Tennessee
- Polysaccharide Interactions with Nanocellulose as a Platform for Biomimetic Modifications, Paula Eronen – Aalto University

23 EU AND NA PUBLIC FUNDING

- Public Funding from EU to Nanotechnology Related Research in Europe, Jyrki Suominen – European Commission, DG Research, Industrial Technologies Directorate
- Nanotech Finland from Vision to Commercialisation, Markku Lämsä – Tekes – the Finnish Funding Agency for Technology and Innovation
- A Canadian Perspective on Nanotechnology Funding with a Focus on Forestry Related Program, Mils Peterson – National Institute for Nanotechnology National Research Council
- Federally-Funded Nanotechnology Research in the United States, Chris Risbrudt – USDA Forest Service Forest Products Laboratory

15:00 - 15:30

BREAK

15:30 - 17:00

24 NANOCELLULOSES AND THE BIOREFINERY

- Aspects of Raw Materials and Processing Conditions on the Production and Utilization of Microfibrillated Cellulose, Kelley L. Spence – NCSU
- Hydrogels Based on the Cellulose Nanofibers Isolated from Plant Sources, Kentaro Abe – Kyoto University
- Novel Fractionation Techniques: Fractionation of MFC Suspensions in a Viscoplastic Fluid, A. Madani – University of British Columbia
- Novel Biorefinery: A Residue from Wood Bioethanol Production Converted into Cellulose Nanocrystals, Kristina Oksman – Luleå University of Technology
- Integrated Production of Nano-Cellulose with Ethanol from Woody Biomass, Junyong Zhu – USDA Forest Products Laboratory

25 NANOMATERIALS AND BARRIERS

- Semi Industrial Application of MFC Barrier Coating, A Complete Rheological and Technological Study, Marco Iotti – Norwegian University of Science and Technology (NTNU)
- Surface Modification of Microfibrillated Cellulose Films by Gas-Phase Esterification: Improvement of Barrier Properties, Galina Rodionova – Norwegian University of Science and Technology (NTNU)
- Composites Out of Nanofibrillated Cellulose and Clay for Barrier Applications in Packaging Materials, Thi Thu Thao – Empa
- Nanoparticle Deposition on Packaging Materials by the Liquid Flame Spray, Hannu Teisala – TUT



The 2010 International Conference on Nanotechnology for the Forest Products Industry

Additional Events Hosted by

There is no charge for these events. Separate registration is required.

Friday, 24 September

FUNCTIONAL MATERIALS WORKSHOP

Thursday, 30 September

8:30 - 12:00 - Tour of VTT and VTT Workshop - "Safety on Nanocellulose"

12:00 - 13:00 - Lunch

13:00 - 17:00 - EU FP7 project "Promine" Information Day

Friday, 1 October

9:00 - 12:00 - Tour of VTT



2010 INTERNATIONAL CONFERENCE ON NANOTECHNOLOGY FOR THE
FOREST PRODUCTS INDUSTRY

Tentative Poster Session

17:30 - 19:00 Monday, 27 September 2010

17:30 - 18:30 Tuesday, 28 September 2010

Poster Sessions and Table Top Exhibit
and Product Demonstrations

Precise Determination of (Nano)particle Emissions from Paper Surfaces via Acoustic Waves,

Andreas Kornherr, Mondi Uncoated Fine Paper

Modeling the Rheology of Nanocellulose Suspensions,

A. Puisto, Aalto University, School of Science and Technology

Multiscale Modeling, Synthesis, and Application of Multifunctional Gelators,

Sergey Gusarov and Andriy Kovalenko, University of Alberta

Coarse-Grained Material Properties for Fiber-Based Materials from Computer Simulations,

Mikko Alava, Aalto University

Atomistic Modeling of Cellulose Nanofibrils: Elastic Properties,

J. L. McWhirter and Sami Paavilainen, TUT

Atomistic Modeling of Cellulose Nanofibrils and Their Interactions,

S. Paavilainen, TUT

Theory and Modeling at Multiple Scales for Understanding Supramolecular Self-Assembly, Solvation Effects, and Gelation,

Stanislav R. Stoyanov, National Institute for Nanotechnology, National Research Council of Canada

Cellulose Fibers and Nanofibrils for Adhesive Reinforcement,

Stefan Veigel, University of Natural Resources and Applied Life Sciences

Cellulose Nanofiber (CNF) for Nanocomposites Production: Opportunities and Challenges,

Hossein Yousefi, University of Tehran

Preparation of Cellulose Nanofibrils from Short Staple Cotton Fibers / Cotton Linters by Homogenization and its Characterization,

A. K. Bharimalla, Central Institute for Research on Cotton Technology, Matunga, Mumbai

Enzymatic and Acid Hydrolysis of Sisal Fibers: Morphological Aspects of Nanoparticles and Influence on the Mechanical Properties of Nanocomposites,

Gilberto Siqueira, PAGORA

Bacterial Cellulose Biocomposites Based on Epoxidized Soy Bean Oil and Gelatin Matrices,

C. Peña, University of the Basque Country

Cellulose Reinforced Spruce Galactoglucomannan Composite Films,

Kirsi S. Mikkonen, Helsinki Uni / Invenntia

Studies on Electrospun Chitosan Based Nanofibres Reinforced with Cellulose and Chitin Nanowhiskers,

Valencia Jacobs, Luleå University of Technology

Thermoplastic Composites Reinforced by Nanofibrils of Cellulose,

Yousoo Han, University of Maine

Physicochemical Characterization of Nanofiber of Different Treatment on Kenaf Bast Fiber,

Alireza Shakeri, Golestan University

Flexible Filler Nanocellulose Structures,

Katariina Torvinen and Jenni Sievanen, VTT

Bacterial Cellulose Coated "Hairy" Sisal Fibres for Renewable Hierarchical Composites,

Anne Delille, Imperial College London

Cellulosic Nanocomposites Reinforced with Nanocrystals Isolated from Hardwood Residues and Hybrid Poplar,

Jingxin Wang, West Virginia University

Water-binding Capacity of Nanofibrillar Cellulose,

Monika Österberg, Aalto University

Poster Session

TENTATIVE POSTER SESSION CONTINUED...

Nano-fibrillation of Wood Pulp Using a High-Speed Blender,

Kojiro UEetani, Kyoto University

Composite Materials of Cellulose Nanofibers and Natural Rubber,

Takeshi Nakatani, Kyoto University

Nanocellulose based Materials with High Performances,

Hanna Lönnberg, SweTree Technologies AB

Preparation and Characterization on Cellulose Nanofiber Paper,

Liyuan Zhang, Deakin University

Mechanical Behavior of Recycled Fibers Coated by Silver Nanoparticles,

L. Csoka, University of West Hungary

Aligned Cellulose Nanocrystals Deposited on Flat Supports by Convective Assembly,

Ingrid C. Hoeger, North Carolina State University

Poly(N-isopropylacrylamide) brushes grafted from Cellulose Nanocrystals via Surface-Initiated Atom Transfer Radical Polymerization (SI-ATRP), Justin Zoppe, North Carolina State University

Optically Transparent Organic-Inorganic Hybrid Materials (OIH) Based on BC and Bohemite- Glycidoxypropyltrimethoxysilane (Boe-GPTS) Systems, Hernane S. Barud, São Paulo State University-UNESP

Photocromic Organic-Inorganic Hybrid (OIHs) Based on Bacterial Cellulose and Polioxometalate (POM),

Hernane S. Barud, São Paulo State University-UNESP

Influence of Nanoclay on Physical and Mechanical Properties of Bio Fiber/ Plastic Composite,

Hossein Khanjanzadeh and Taghi Tabarsa, Gorgan University

Nanosized Coatings on Paper Using Electrospinning/Spraying Process,

P. Heikkilä, TUT

Nanoscale Surface Processing with Atmospheric Plasma Technique,

Johanna Lahti, TUT

Gas and Moisture Barrier on Bio-based Packaging Materials by Atomic Layer Deposition,

Terhi Hirvikorpi, VTT

Papers Coated with a MODIFIED Pigment Obtained by in Situ Synthesis of Silica Film on PCC,

José A.F. Gamelas, University of Coimbra

Thin Coatings for the Paper by Foam Coating, Karita Kinnunen, Tuomo Hjelt, Eija Kenttä, VTT

Controlled Wettability of Paperboard by Nanoparticles Using Liquid Flame Spray Process, Milena Stepien, AA/TUT

Nanofibrillated Cellulose as Carrier of (Nano) Particles, Kirsi Kataja, VTT

Using Nanofibrillated Cellulose to Improve Biomaterials Properties for Packaging Applications, Susana Aucejo Romero, Packaging, Transport & Logistics Research Center

Modifying Contact Angles on Lignin Surfaces By the Application Of Silica Nanoparticles, Lei Dong, Tiina Nypelö, Monika Österberg, Janne Laine, and Mikko Alava, Aalto University

Cellulose Nanoparticles and Alginate Encapsulation for Their Use in Extrusion Process, Julien Bras - Laboratory of Pulp and Paper Science

Poster Session



Dipoli Congress Centre: the Ideal Location for the 2010 International Conference on Nanotechnology for the Forest Products Industry

Dipoli Congress Centre is one of the premier prestigious venues in Finland for meetings, seminars, international congresses and festive events. It is in a prime location, sharing in the diverse services on offer in the capital as well as the innovative atmosphere of the scientific community of Otaniemi.

Espoo, Finland is the home of Otaniemi, the heart of Finland's Hi Tech. Otaniemi is situated in the Greater Helsinki region, just 15 minutes west of Helsinki. A stone's throw from Nokia's worldwide headquarters, Otaniemi Technology Hub is the leading technology hub in the Nordic countries, featuring a unique mix of world-class research organizations, academic institutions and over 600 companies from start-ups to multinational corporations operating around a compact 2 kilometer campus.

Sponsorship Opportunities are Available!

View the prospectus online at www.tappi.org/10nano or contact Ria Van den Bogaert at ria@vandenbo.com or +32 2 569 8905.

Hotel Information

Sokos Hotel Tapiola Garden
 Tapioonauko 3
 02100 Espoo, Finland
<http://www.sokoshotels.fi/en/hotels/espoo/>
 Telephone: +358 20 1234 600
 Fax: +358 20 1234 640
 Email: sokos.hotels@sok.fi

TAPPI has negotiated special hotel rates with Sokos Hotel Tapiola Garden. As a 2010 Nanotechnology Conference attendee you will receive a special rate if reserve your room by 2 August 2010 and quote "TAPPI" when making reservation. Rooms outside our block may be much more expensive and will not include special offers. If you utilize a travel agent or company travel department, please let them know about the procedures.

Rates:

Standard Single Room: €129 (includes breakfast, service, room charge VAT (8%), sauna, and wireless internet)

Standard Double Room: €149 (includes breakfast, service, roomcharge VAT (8%), sauna, and wireless internet)

Registration Information

Three Easy Ways to Register

1. Go online to www.tappi.org/10nano and click Register Now
 2. Phone: 1.800.332.8686 (US), 1.800.446.9431 (Canada), or +1.770.446.1400 (Worldwide)
 3. Download a printable registration form from www.tappi.org/10nano
- Need to make a Wire Transfer for payment? Call +1.770.446.1400 for details.

Fees	On or before 31/08/2010		After 31/08/10 & Before 20/09/10		Onsite	
	U.S. Dollars	Approx. Euros	U.S. Dollars	Approx. Euros	U.S. Dollars	Approx. Euros
TAPPI Member	\$590	€485	\$785	€664	\$885	€726
Non Member	\$885	€727	\$1,178	€967	\$1,328	€1,090
Group Rate 3+ Member	\$443	€364	\$443	€364	\$664	€545
Single Day Member	unavailable	unavailable	unavailable	unavailable	\$600	€493
Single Day Non-Member	unavailable	unavailable	unavailable	unavailable	\$730	€600
Speaker Full Conference	\$325	€267	\$432	€487	\$487	€400
Retired	\$325	€267	\$432	€487	\$487	€400
Student	\$150	€123	\$150	€150	\$150	€123
Cruise & Dinner	\$148	€122	\$148	€122	\$148	€122

* All fees must be paid in U.S. Dollars.

Cancellation:

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 31 August 2010. Please note: There will be a 50% refund for all written cancellations made after 31 August 2010 but no later than 20 September 2010. Understandably, after this time, no refunds can be issued. Substitutions, however, will be accepted any time without a penalty.

REGISTRATION

10NANO

2010 International Conference on Nanotechnology
for the Forest Products Industry
Espoo, Finland • 27-29 September 2010

FIVE EASY WAYS TO REGISTER

- 1) Mail** – TAPPI, P.O. Box 933644, Atlanta, GA 31193-3644, USA
- 2) Online** – go to www.tappi.org/10Nano
- 3) Fax** – Fax completed registration form to +1.770.209.7206
- 4) Phone** – 1.800.332.8686 (US), 1.800.446.9431 (Canada) or +1.770.446.1400 (Worldwide)
- 5) Wire Transfer** – call +1.770.446.1400 for details

GENERAL INFORMATION (Please print or type. Submit a separate form for each attendee, spouse or guest.)

Please check one: Mr. Ms. Mrs. Dr. Sr. Jr.

First Name _____ MI _____ Last Name _____

TAPPI or PIMA Member # _____ Badge Name _____

Title _____ Company Name _____

Address _____

City/State/Province _____

Zip/Postal Code _____ Country _____

Telephone _____ Fax _____ Email _____

REGISTRATION FEES All fees are in US Dollars

Please circle your selection

	By 31/08/2010	After 31/08/2010 and before 20/09/2010	Onsite
Member *	\$590	\$785	\$885
Non Member	\$885	\$1,178	\$1,328
Speaker Full Conference	\$325	\$432	\$487
Retired	\$325	\$432	\$487
Group Rate 3+ Member	\$443	\$443	\$664
Student	\$150	\$150	\$150
Cruise & Dinner	\$148	\$148	\$148

* Member discounts are available to members of TAPPI. To qualify for member discount, please supply your TAPPI Member number above.

Renew/Join TAPPI – Annual Membership Fee \$174 (International members additional \$14 for postage)

For the full amount of \$ _____

Additional Events Hosted by VTT (Registration is free, but reservation is required).

- Functional Materials Workshop (24/09/2010) Safety of Nanocellulose Workshop (30/09/2010) 08.30 – 12.00 Lunch (30/09/2010) Lunch for registered attendees for VTT events only EU FP7 project "Promine" Information Day (30/09/2010) Tour of VTT (01/10/2010)

TAPPI PRESS Discounts for Conference Attendees

Pre-order now, and pick it up when you arrive at the conference. Save on shipping! Take advantage of this exclusive offer at the same time you register.

- 09NANOCD** 2009 Nanotechnology Conference for the Forest Products Industry CD Special Conference Price: US\$95
- 0101R314** Nanotechnology for the Forest Product Industry Vision and Technology Road Map Special Conference Price \$58
- BIOCD-09** 2009 Int'l Bioenergy & Bioproducts Conference Proceedings Special Conference Price \$69

METHOD OF PAYMENT (All fees must be paid in U.S. Dollars and must accompany registration forms)

Checks: Enclosed is check number _____ for the full amount of \$ _____

Please mail checks to TAPPI, P.O. Box 933644, Atlanta, GA 31193-3644, USA (Make check payable to TAPPI, check must be in U.S. Dollars)

Please bill my credit card: Amex Diner's Club Discover MasterCard Visa

Name as it appears on the card _____

Credit Card # _____ Exp _____

Signature _____

Wire Transfer: Contact memberconnection@tappi.org or call +1.770.446.1400 for instructions.

Wire Transfer: US\$ _____ was wired as payment on _____ (date)

1. WHAT TYPE OF COMPANY DO YOU WORK FOR? (choose only one)

- Pulp and Paper/Paperboard Manufacturing (1)
- Converting - Paper Packaging (4A)
- Converting - Flexible Packaging (4B)
- Independent Consultant: Engineering, Technical Production or Research (2)
- Manufacturer of Machinery, Equipment, Chemicals or Supplies (7)
- Woodlands, Forestry, Logging, Pulping & Chips (3)
- Tissue Manufacturing (5)
- Agricultural (Non-Forestry) (17)
- Energy Production Company (19)
- Dealer or Distributor of Supplies (8)
- University Professor (9A)
- Full Time Student (9B)
- University Library (9C)
- Press (10A)
- Library (10B)
- Association (10C)
- Government (10D)
- Retired (13)
- Nonwovens (14)
- Printing/Graphic Arts (15)
- Allied to the Industry (12)
- Industry Customer (end user) (16)

2. WHAT IS YOUR PRIMARY JOB FUNCTION?

- Librarian – Corporate (A)
- Technical Research (D)
- Marketing & Sales (G)
- Corporate Management (B)
- Engineering (E)
- Traffic & Shipping (H)
- Production (C)
- Purchasing & Stores (F)
- Other Management & Administrative Personnel (I)
- Other (J)

3. WHAT IS YOUR PRIMARY INDUSTRY? (check one)

- Energy Plant (E)
- Farm or Plantation (F)
- Pulp Mill Only (P)
- Technical/R&D Facility/Headquarters (H)
- Paper/Paperboard Mill Only (R)
- Independent Operations or Converting Plant (O)
- Integrated Pulp/Paper/Paperboard Mill (D)

4. HOW DID YOU HEAR ABOUT THE CONFERENCE?

- TAPPI.org website
- Email
- Brochure
- Newsletter
- Colleague/Co-worker
- Facebook
- LinkedIn
- Twitter
- Other: _____

Do you require special accommodations for handicapped access? Yes No

The contact information you provide may be used by TAPPI or its business associates to notify you of items that may be of interest to you. I understand that under certain laws and regulations, TAPPI must have written permission in order to communicate with me via fax or e-mail. I hereby give TAPPI, TAPPI's business associates, the TAPPI Foundation, and TAPPI's Local Sections written permission to communicate with me via:

- Fax and/or E-mail

CANCELLATION POLICY

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 August 31, 2010. Please note: There will be a 50% refund for all written cancellations made after August 31, 2010 but no later than 5 business days prior to the start of the conference (September 20, 2010). Understandably, after this time, no refunds can be issued. Substitutions, however, will be accepted any time without a penalty.