

## CALL FOR SUBMISSIONS

The 2014 Technical Committee invites abstracts on research, development, applications, novel uses and critical reviews of renewable nanomaterials. Analysis of challenges and trends in emerging markets for renewable nanomaterials is also sought to provide a foundation for new research and industrial activities. Topical areas include:

### Preparation & Characterization

#### Renewable Nanomaterial Isolation & Separation

- Cellulose nanocrystals and nanofibrils
- Plant, algal, bacterial and other sources
- Lignin, heteropolysaccharides, chitosan, etc.

#### Lab & Pilot-Scale Production

- Process Optimization
- New isolation & extraction methods
- Drying processes
- Separation processes for renewable nanomaterials

#### Metrology

- Sizing, mechanical, chemical, optical and surface properties
- Purity, molecular weight, crystallinity, etc.
- Thermal, electrical and other properties
- Toxicity, biocompatibility & Biodegradability

### Self- and Direct-Assembly & Functionalities

#### Nanostructured Materials by Self-assembly

- Nano manufacture & self-assembly
- Photonic bandgap pigments for special optical effects
- Controlled delivery, immobilization, etc.

#### Novel Nano-enabled Functionalities

- Surface modification and responsive materials
- Optical effects for novel photonic applications
- Inorganic materials template by cellulose nanocrystals
- Novel electric, magnetic and piezoelectric effects
- Sustainable polymer electronics

#### Carbon Fibers from Biomass

- Production, characterization & uses

#### Membranes & Filters

- New Membrane technologies
- Air, water and bio filtration

#### Biomedical Applications

- Ligament replacements, scaffolds, advanced wound technology
- Bioactive materials
- Immunoassays

### Rheology and Dispersion Phenomena

- Rheology behavior in aqueous and non-aqueous systems
- Viscoelastic properties, etc.

### Composites, Hydrogels, and Aerogels

#### Nanocomposites and Renewable Nanomaterials

- Nano-reinforced films and fibers
- Biomimetic nanocomposites
- Porous materials, gels and aerogels, foams and multiphase dispersed system
- Bio-derived matrix polymers
- Processing

#### Organic/Inorganic Hybrids

- Catalysts
- Flexible electronics, etc.
- Metal functionalization, ALD, etc,

### Manufacturing Applications

#### Rheology and Rheological Modifiers

- Industrial processing applications, e.g., food, pharma, painting, coating, oil, gas, etc.
- Dispersion and flocculation

#### Additive Manufacturing

- Raw nanomaterials
- Medical applications
- 3D printing

#### Paper, Board & Packaging

- Coatings & Fillers
- High modulus paper coatings
- Wear and scratch resistant coatings
- Flexible Packaging
- Barriers

#### Printing Technologies

- Printing inks
- Smart materials
- Sensing technologies

### Computer Modeling and Simulation

- Multiscale Modeling
- Solvation structure and hydrodynamics

### Environmental, Health and Safety Issues

#### Workplace Safety & Standards

- Current understanding and critical gaps
- Consumer perception and regulations
- Management of risks and perceptions
- Sustainability assessment, LCA

### CONFERENCE CHAIRS:

**Wadood Y. Hamad**, FPInnovations (Canada), **Akira Isogai**, Univ. of Tokyo (Japan), and **Orlando Rojas**, NCSU (USA) and Aalto University (Finland)

## STUDENT OPPORTUNITIES

### Student Travel Awards

Abstracts submitted by students for oral presentations and posters will be reviewed and evaluated by a group appointed by the Technical Program Committee. Selected submissions will be awarded grants to cover partial travel expenses, as well as offer discounted conference registration fees.

### Student Poster Competition

All accepted posters will be evaluated at the conference by a team of judges. The poster winners will be recognized at the conference, and the top poster presenters awarded a prize. The Student Poster Competition is sponsored by Verso Paper Corp.

## ABSTRACT SUBMITTAL

Abstracts are due by **5 November 2013**. Submit title and 300 word or less abstracts via TAPPI's Speaker Management System: [click here](#) to sign in. Powerpoint Presentations are due by **15 May 2014**.

***TAPPI's Commercial Guidelines have been relaxed for this conference. Company name and logo can be displayed on the presentation slides. Trade names can be used throughout the presentation.***

## REGISTRATION INFORMATION

Speakers must register by **1 May 2014** to confirm inclusion in the technical program. A reduced conference rate is available for speakers.

See [www.tappinano.org](http://www.tappinano.org) for more information.