

FEDERATION OF EUROPEAN
MATERIALS SOCIETIES

The Minerals, Metals & Materials Society

**TMS2018**147th Annual Meeting & Exhibition

March 11 – 15, 2018

Phoenix, Arizona

The Federation of European Materials Societies (FEMS) and TMS will join the technical expertise and talents of their volunteer organizers to offer a selection of new symposia at the TMS 2018 Annual Meeting (TMS2018). Plan now to contribute to these important topics, examined from the perspective of developments in Europe.

NANOCELLULOSE FIBRILS: A NEW CONSTITUENT IN MATERIALS RESEARCH

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Cellulose is the main load bearing building block in plant cell walls. It has primarily been used in the form of chemical pulp fibers for paper and board applications, although cellulose fibers are also the key component or precursor to cotton textiles and Rayon or Viscose fibers. Recently, industrially feasible processes have been introduced for disintegration of cellulose nanofibrils (CNF) from the plant cell wall. CNF has been used to prepare nanopaper, aerogels, hydrogels, polymer matrix biocomposites, inorganic hybrids, and many other types of materials.

Research related to CNF encompasses a number of areas, including structure-property relationships, colloidal behavior, materials preparation studies, and topochemical modification. CNF could also potentially be used in large-scale nanotechnology applications including packaging materials, semi-structural biocomposites, textile fibers, fire-retardant materials (combined with clay), building materials (transparent panels), as well as an array of high-technology applications.

This symposium will examine the potential, development, and application of CNF. Presentations on preparation methods and structure-property relationships, including interface studies involving molecular dynamics simulations, are highly encouraged. The potential of water-based processing is of particular interest.

ORGANIZER

Lars Berglund

KTH Royal Institute of Technology

blund@kth.se

ORGANIZING SOCIETIES

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