SPEAKER

NAME
Prof. Tom Lindström

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BIOGRAPHY
Professor Tom Lindström has a wide experience in most sectors of the Forest Products Industry. The experience encompasses academic, institutional and industrial activities.
Lindström's scientific and technical interests are the physical and surface science of cellulosic fibres and wood-based materials and physiochemical swelling behaviour of cellulose/lignin gels and a long focus has been on various paper chemistries. During the past years his focus has been on manufacture and up-scaling of nanocellulosic materials and various industrial applications of these materials.
Tom Lindström is currently a visiting scientist at the Department of Chemistry at Stony Brook University, Long Island, USA and is also the Editor in Chief of Nordic Pulp and Paper Research Journal.
He was honoured to TAPPI Fellow 1995 and a fellow of the International Academy of Wood Science 1996. He also became a George Jayme medallist 2007 (ZELLCHEMING), and an Ekman medallist 2008 (SPCI) and received the William. H. Aiken Technical Award 2016 for outstanding contributions for the Forest Products Industry.

LECTURE

The world of nanocellulosic material applications

There is a whole family of different nanocellulosic nature-based materials, which may be divided into, nanocrystalline cellulose (CNC), nanofibrillar cellulose (CNF) and bacterial nanocellulose (BNC) and algal (Cladophora) nanocellulosics (ANC). The history of these nanocellulosics goes back, at least, to the 1940s.

All of these materials have widely different applications, ranging from large-scale papermaking applications to medium and high-end use in, for instance, nanocomposites, water treatment to medical and the electronic materials sector.

The presentation will briefly be on the manufacture and applications of CNF in certain sectors in the materials sector and is a personal account of the evolutionary patterns and challenges on the road to practical commercial applications.

There have been extensive research and development activities in the field of nanofibrillar cellulose (CNF) materials during the past decades, although microfibrillated cellulose (MFC) was developed already during the late 1970s at ITT-Rayonier in USA. The developments, however, run to a standstill after ITT Rayonier abandoned their development efforts, but R&D was taken up in the late 80s and in the 90s by efforts in Sweden and Japan, after which the developments proliferated after the millennia in the wake of the nanohype. In the late 1990s.

The presentation will give an overview perspective on nanocellulose developments and the hurdles to be alleviated in order to secure a successful commercialisation of these materials will be highlighted in the presentation.