

Organized thin films of cellulose nanocrystals: From model to optically active films

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Organized thin films of cellulose nanomaterials have attracted a great interest for their spectacular optical properties but also because they can be used as model to elucidate the nature of the interactions in fiber cell walls and composites among other applications. Since few years many dedicated efforts have been directed toward the manufacturing of highly organized and robust nanofilms based either on pure nanocellulose substrates or in blend with other polymers. Different techniques such spin coating, barre coating, Langmuir-Blodgett, Langmuir-Scheafer, Spray-assisted deposition and shear convective deposition were used for the manufacturing of such organized films leading to nanomaterials with tunable properties useful for wide range of fundamental and applied domains. This presentation will provide an overview of these efforts and highlight some important findings.