Innovative Green Wood Fibre Products

A New NSERC Strategic Research Network
Funded by the Forest Sector R&D Initiative
Aligned with FPInnovations Research Program

Scientific Director:
Professor Theo van de Ven
Department of Chemistry, McGill University

Mission:
To create technology platforms for developing green products based on wood fibres and wood fibre networks that will replace fossil-fuel based and other non-renewable products

Paper as Green Material

Bio-renewable
Bio-degradable
Compostable
Recyclable
Increasingly carbon neutral

Theme 1

Chemical modification of wood fibres and wood fibre networks

Theme Leader: Professor Huining Xiao
University of New Brunswick

- Hydrophobicity
- Water-vapour barrier property
- Grease resistance
- Rewet strength
- Fire retardancy

Theme 2

Design and control of barrier properties of wood fibre networks

Theme Leader: Professor Reghan Hill
McGill University

- Modeling fluid/mass transports
- Experimental characterizations
- Micro scale measurements
- Nano fibrillar cellulose

Theme 3

Novel eco-friendly lignocellulosic fibre-based products

Theme Leader: Professor Ramin Farnood
University of Toronto

- Fibre design studio
- Industrial membranes
- Functional yarns from functional gels
- Wood-fibre-biopolymer composites

Interplay Between Themes

Functional fibres
Barrier properties
Novel products

Participating Universities

McGill University
University of Toronto
Université de Québec à Trois-Rivières
University of British Columbia
University of New Brunswick
University of Alberta