

Nancy – Freiburg – Zürich Meeting 2016

Nanocellulose and Wood Functional Materials

Program

Status: 22.02.2016

Venue:

University of Freiburg, Freiburg Centre of Interactive Materials and Bioinspired Technologies (FIT)
Georges-Köhler-Allee 105, 79110 Freiburg (Germany)
[Location](#), Seminar room (ground floor)

Local organizers and contact:

Chair of Forest Biomaterials, Werthmannstr. 6, 79085 Freiburg (Germany)
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Monday, February 29th 2016

10:00 Welcome coffee

10:30 Welcome / Opening

Laborie, Burgert /
Zimmermann, Gérardin /
Brosse

Session 1 – Wood as hierarchical nanocomposite; Session leader: Marie-Pierre Laborie

10:45 Micromechanical and Structural Characterization of Genetically Modified Poplar Merve Özparpucu (ETH)

11:15 Intraspecific heterogeneity in cross section affecting wood thermal stability Joël Hamada (Lermab)

11:15 Architectural and engineering applications based on the autonomous movements of the wooden bilayer structure Chiara Vailati (ETH)

12:15 Lunch (solarcasino at the Solar Info Center, Emmy-Noether Str. 2, 5 min by foot)

13:45 **Keynote:** Molecular interactions in the cell walls of plant biocomposites Wolfgang Glasser (Virginia Tech)

14:30 Versatile Strategies for the Modification and Functionalization of the Hierarchical Wood Structure Tobias Keplinger (ETH)

Session 2 – Wood modification and protection; Session leader: Ingo Burgert

15:00 Wood thermal modification: uses of mild and strong pyrolysis in laboratory Stéphane Dumarcay (Lermab)

15:30 Layer-by-layer assembly for wood surface protection Hervé Bellanger (ETH)

16:00 Coffee break

16:30 Improving wood decay resistance by means of bio-based co-polyesters Clément L'Hostis (Lermab)

17:00 Valorisation of beech wood by circular economy through furfurylation process Aurélia Imbert (Lermab)

19:00 Dinner Gasthaus Schützen, Schützenallee 12, 79102 Freiburg i. Br.;
Public transport: Tram line 1, direction "Littenweiler", stop "Maria-Hilf-Kirche, Freiburg"

Tuesday, March 1st 2016

Session 3 – Nanocellulose; Session leader: Nicolas Brosse

09:00	Functionalization of nanofibrillated cellulose substrates with chlorosilanes	Paola Orsolini (EMPA)
09:30	TEMPO-oxidized nanofibrillated cellulose as a highdensity carrier for bioactive molecules	Ramon Weishaupt (EMPA)
10:00	Defibrillation of wood pulp fibers with extrusion: process impact and new quantitative tools	Jia Mao (Biomat)

10:30 Coffee break

Session 4 – Bio-based monomers and polymers; Session leader: Tanja Zimmermann

11:00	Analysis of suberin monomers as natural resource for polymerization reactions	Anna Fichtner (Biomat)
11:30	Impact of processing methods on the structural properties of TC lignin	Idi Audu (Biomat/Lermab)
12:00	Tailoring lignin for anti-oxidant and anti-corrosion applications	Nicolas Brosse (Lermab)
12:30	Lunch (solarcasino at the Solar Info Center, Emmy-Noether Str. 2, 5 min by foot)	
14:00	Swelling properties of azacrown ether cross-linked chitosan films	Julius Ratumo Toeri (Biomat)
14:30	Research perspectives on extractives of knot and other tree parts	Francis Colin (Lerfob)
15:00	Final discussion and Perspectives	Laborie, Burgert / Zimmermann, Gérardin / Brosse

15:30 Coffee break