

Program

18th meeting of the Northern European Network for Wood Science and Engineering (WSE)

21-22 September 2022
Goettingen, Germany

Tuesday, 20 September 2022

18:00 - 19:00 Registration
18:00 Welcome Reception

Wednesday, 21 September 2022

08:00 Registration & Morning Coffee
08:45 Opening
Larnøy E, Militz H, Brischke C
09:10 Keynote: Forests of the future - challenges and options for the adaption of forests to climate change
Ammer C

Session 1, Chair: Christian Brischke

09:40 Influences of tree growth conditions on wood properties
Nopens M, Ohlmeyer M, Koch G, Krause A
09:55 A little about the verification of a lot (EN14358)
Ridley-Ellis D
10:10 Can you guess the strength of timber? How (your) wood quality perceptions relate to reality
Cramer M, Ridley-Ellis D
10:25 Natural durability of Sweet Chestnut and European Oak heartwood after weathering
Keržič E (S), Vek V, Humar M
10:40 Assessment and evaluation of visual strength grading for re-used softwood
Anraed L (S), Stenstad A
10:55 Coffee Break

Session 2, Chair: Roja Modaresi

11:15 Performance of red oak wood from Slovenia
Lesar B, Golob Ž, Humar M, Vek V
11:30 Possibilities of using Reeds for the Wood Industry
Jonaitienė V, Pilkis G, Girdziušas S
11:45 Utilization of waste wood
Gedde KB (S), Nyrod AQ, Aurlien T
12:00 The assessment of the mechanical and physical properties of in situ timber
Bather M, Ridley-Ellis D
12:15 Performance of glulam beams after five years of outdoor exposure
Humar M, Lesar B, Keržič E, Kržišnik D
12:30 Accelerating wood densification – Are we going too fast?
Scharf A (S), Neyses B, Sandberg D
12:45 Lunch Break

Session 3, Chair: Magnus Wålinder

13:45 Material properties of wood particle boards made from CIOL®-treated wood shavings
Nordraak IO (S), Strømmen S (S), Treu A, Larnøy E
14:00 Mapping process-related chemical variation in resin-treated wood on different spatial scales
Altgen M, Awais M, Altgen D, Klüppel A, Koch G, Mäkelä M, Olbrich A, Rautkari L
14:15 Cell wall diffusion of low molecular weight PUF resin studied by liquid- and solid-state NMR
Kupfernagel C (S), Spear M, Pitman A, Yelle D, Rahman M, Brown SP, Ormondroyd G
14:30 Characterisation of moisture in wood modified with maleic anhydride and sodium hypophosphite with low-field nuclear magnetic resonance
Kim I (S), Thybring EE, Karlsson O, Jones D, Mantanis G, Sandberg D
14:45 Poster announcement
15:10 Poster session & Coffee

Poster session

The effect of thermal treatment of Sycamore maple (*Acer pseudoplatanus* L.) prior to impregnation with furfuryl alcohol, regarding homogeneity and swelling behaviour
Bender T, Munk C, Damay J, Jousserand M, Gérardin P, Pfriem A

Influence of stand density on spike knots branch parameters and stem straightness in Scots pine stands
Beniušienė L, Aleinikovas M, Šilinskas B

Novel wood-fibre composites from reclaimed wood
Christ J, Thybring EE, Sanadi AR

Are organic salts suitable as fire retardants for wood? - A brief screening
Franke T, Volkmer T

XRF-spectroscopy for predicting the fire performance of flame retardant-treated wood
Hundhausen U, Larnøy E

Vacuum low-temperature microwave-assisted pyrolysis of pine Kraft lignin – Products and potential applications
Karthäuser J, Biziks V, Militz H

Hemp flour as the formaldehyde-scavenging extender for UF adhesive in plywood production
Kawalerczyk J, Walkiewicz J, Dziurka D, Stuper-Szablewska K, Kuliński M, Mirski R

Promoting safe and extended use of wood products in health buildings through development of antimicrobial surfaces, hygiene concepts, and guidelines – WOOD for HEALTH
Kilpeläinen P, Klasander A-J, Schirp C, Hundhausen U, Andersons B, Lettau M, Valdmanis M, Virtanen V

Health benefits of wooden buildings - Long-term monitoring of physical and chemical properties of the building and stress of pupils in a wooden school and in two control schools
Kilpeläinen P, Sutinen V, Jokinen E, Virtanen V

Hygrothermal criteria for design of cross-laminated timber external walls
Kukk V, Kers J, Kalamees T, Wang L, Ge H

Properties of composite sandwich panels. Influence of the type of middle layer

Kuliński M, Kawalerczyk J, Walkiewicz J, Mirski R

Quality control of esterified wood using hyperspectral imaging

Kurkowiak K, Altgen M, Awais M, Rautkari L, Militz H

Furfurylation for use in the marine environment: investigating survivability of marine wood-borers

Martin L, Guarneri I, Michie L, Westin M, Lande S, Cragg S

Comparative study on the suitability of different solutions based on sorbitol and citric acid as wood adhesives

Munier L, Treu A, Mahnert K-C, Pfriem A

Influence of residual oxygen content during thermal modification process on mass loss, brightness colour and dynamic Young's modulus of *Fagus sylvatica* (L.)

Munk C, Pfriem A

Survey of timber structures - Validation studies of a service life prediction tool

Rabke JJ, Brischke C, Alfredsen G, van Niekerk PB

Application of wood filled PLA on wood veneer by additive manufacturing technique

Reichel V, Hach P, Evertz L, Mayer J, Heublein J, Diede K, Günther N, Weiß S

Bio-based, thermoplastic sheets for hot-pressing on plywood: an alternative to thermoset laminates

Schirp A, Schmidt P, Villanueva Diez S, Barrio A

First insights into the microbiome analysis of outdoor construction wood

Schrader L, Tebbe CC, Melcher E, Trautner J

Development of the 'Bok' oak technology: Modification of wood in environmentally friendly way

Škema M, Aleinikovas M, Šilinskas B, Varnagiryte-Kabašinskienė I, Beniušienė L

Evaluation of mold resistance and thermal characteristics of wood modified with boron and Paraloid B72® copolymer

Soytürk EE, Kartal SN, Çelik N, Önses MS

Bark particles as a formaldehyde scavenger in plywood manufacturing

Walkiewicz J, Kawalerczyk J, Mirski R, Stachowiak-Wencek A, Kuliński M

Session 4, Chair: Magnus Wålinder

16:00 Effect of drying on the hydroxyl accessibility and sorption properties of pressurized hot water extracted wood

Kyyrö S (S), Altgen M, Seppäläinen H, Belt T, Rautkari L

16:15 Impact of volatile components on LFNMR measurements of thermally modified wood

De Ligne L, Fredriksson M, Thybring EE

16:30 Microcapsules in Wood Industry

Aysal Kesin S (S), Şahin Kol H

19:00 Conference dinner

Thursday, 22 September 2022

Session 5, Chair: Maija Kymäläinen

09:00 Synthesis of cellulose nanocrystals reinforced acrylic nanocomposite formulation for wood coating

Popescu C-M, Pamfil D, Sun D, Popescu M-C

09:15 Modified cellulose nanocrystals as the fire-inhibitor substrate for cellulose-based packaging

Tavakoli M (S), Ghassemian A, Dehghani-Firouzabadi MR, Grześkowiak W, Mazela B

09:30 Plasma pre-treatment of thermally modified wood for increased printed coating performance under extreme conditions

Talviste R, Dobris J, Raud J, Jögi I

09:45 Surface carbonization of hardwoods for improved performance in exterior applications

Kymäläinen M

10:00 Influence of face veneer thickness on combustion properties of post-manufactured fire retardant treated plywood

Dembovski KH (S), Kallakas H, Alao PF, Rohumaa A

10:15 Implementation of an environmental cell for in situ nanotomography of biological specimen at the imaging beamline Po5

Krause A, Greving I, Flenner S, Lüdtke J, Altgen M, Beruda J, Heldner S, Köhm H, Nopens M

10:30 Coffee Break

Session 6, Chair: Vaida Jonaitienė

11:00 Preliminary work on a new method for moisture conditioning of wood for decay tests

Fredriksson M, Thybring EE, Emmerich L, Brischke C

11:15 Effect of moisture content on the angle-dependent edgewise flexural properties of unmodified and acetylated birch plywood

Wang Y (S), Wang T, Crocetti R, Wålinder M

11:30 Mapping fluid flow in wood: the interaction of laser incisions with cell structure

Spear M, Miles C, Curling S, Nath S, Pitman A, Mason P, Waugh D, Ormondroyd G

11:45 Moisture gradient analysis during sawn-timber drying

Poupet B (S), Couceiro J, Florisson S, Sandberg D

12:00 Screw withdrawal capacity of aspen and black alder plywoods compared to birch plywood in 3 principal directions

Akkurt T (S), Kers J, Rohumaa A

12:15 Development of thermal insulation materials from plant fibres by steam explosion pre-treatment

Bērziņš A (S), Tupčiauskas R, Andzs M, Pavlovichs G

12:30 Elastic flexural properties of oil palm wood based glue laminated timber determined using the finite element method (FEM)

Hackel M (S)

12:45 Setting pattern influence in woodworking handsaws

Mellqvist D (S), Johansson J

13:00 Lunch Break

- 14:00** A fast method of modified fibrous composites preparation
Perdoch W, Mazela B, Grześkowiak W, Siemińska I, Tavakoli M
- 14:15** Valorisation of the cellulose fibres into bioplastic films and packaging materials
Kers J, Kallakas H, Kilumets C, Ahmadian I, Tarasova E, Krasnou I, Savest N, Gudkova V, Kattamanchi T, Alao P, Krumme A
- 14:30** The environmental impacts of the planed timber production in Norwegian sawmills vs. coated timber cladding
Modaresi R, Næss JK
- 14:45** Robust and precise LCC of wooden buildings using novel service life prediction tools
Alfredsen G, Brischke C, Acquah R, Akkurt T, Flæte PO, Frühwald Hansson E, Gustavsen GW, Hosseini H, Kalamees T, Kers J, Kukk V, Modaresi R, Niklewski J, Sandak A, Sandak J, van Niekerk PB
- 15:00** Student Awards
- 15:15** Closing of WSE 2022
- 15:45** Visit of laboratories (optional)

Conference venue

Georg-August-Universität Goettingen
Department Wood Biology and Wood Products
Büsgenweg 2 + 4, 37077 Goettingen, Germany

Evening venue

Wednesday, 21 September 2022, 19:00
The conference dinner will be held at the Restaurant „Bullerjahn“, Markt 9, 37073 Goettingen.
www.bullerjahn.de

Campus map

