

9th European Conference on Wood Modification (ECWM9)

ECWM co-hosted by COST FP 1407

Programme 2018

Scientific Committee

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Prof. Dr. Callum Hill, JCH Industrial Ecology Ltd., United Kingdom
Dr. Dennis Jones, Timber Consultancy (UK) / LTU, Sweden
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Mr. Jos Creemers, SHR, The Netherlands
Mr. Bôke Tjeerdsma, SHR, The Netherlands
Prof. Dr. Joris Van Acker, Ghent Uni., Belgium
Dr. Andreja Kutnar, Uni. of Primorska, Slovenia (FP 1407)

Local Organizing Committee

Mr. Bôke Tjeerdsma, SHR; (Chairman of Organizing Committee)
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Mrs. Mariena Mooi, SHR
Mrs. Jos Gootjes, SHR

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Sunday 16 September 2018		
15:00 - 20:00	Pre-registration & informal get together ECWM9; cost FP1407 Location: Hotel Haarhuis, Stationsplein 1, 6811 KG Arnhem	
Monday 17 September 2018		
07:45 - 8:45	Registration ECWM9; cost FP1407 Location: Burgers' Zoo, Antoon van Hooffplein 1, 6816 SH Arnhem	
08:30 - 08:45	Welcome and opening address – Holger Militz, Bôke Tjeerdsma	
Session One: Wood modification world-wide -Keynote presentations Session chair: Holger Militz <i>Auditorium</i>		
08:50 - 09:10	Henrik Heräjärvi - Modified wood in circular economy – a critical review	
09:10 - 09:30	Dennis Jones - A review of wood modification across Europe as part of COST FP1407	
09:30 - 09:50	Jeff Morrell – What is Wrong with Wood Modification in the U.S.?	
09:50 - 10:10	Yanjun Xie - Wood modification status in China - Asia	
10:15 – 11:00 Coffee <i>Foyer</i>		
Session Two: Commercial and market opportunities for modified wood Session chair: Julia Carmo <i>Auditorium</i>		
11:00 - 11:15	Søren Bang-Achton – New Standards for Approval of Modified Wood within the Nordic Wood Preservation Council (NWPC)	
11:15 - 11:30	Per Brynildsen - Kebony® Clear – Produced in Belgium	
11:30 - 11:45	Andries van Eckveld - Improved dimensional stability of polypyrrole enriched spruce as an indication for chemical change	
11:45 - 12:00	Jeroen Lückers - Practical experience of acetylated wood fibre panel products in Dutch door manufacturing	
12:00 - 12:15	Holger Militz - Wood Modification with DMDHEU (1.3-dimethylol-4.5-dihydroxyethyleneurea) – Status quo and latest research activities	
12:15 - 12:30	Dick Sandberg – Architects perception of modified wood: a parallel study in selected countries of Europe	
12:30 - 12:45	Reeta Stöd – Enhancing the Properties of ThermoWood® with Phenolic Resin Treatment	
12:45 - 14:00 Lunch <i>Foyer</i>		

Session Three: Poster Session 1		<i>Auditorium</i>
Session chair: Joris Van Acker		
14:00 - 14:03	Mírian de Almeida Costa - Effect of Thermo-Mechanical Treatment on Properties of Parica Laminated Veneer Lumber (<i>Schizolobium amazonicum</i> Huber ex Ducke)	
14:03 - 14:06	Djeison Cesar Batista - TanWood®: The Brazilian Process of Thermal Modification of Wood	
14:06 - 14:09	Miklós Bak - Examining the coating performance of finishes on acetylated hornbeam wood (<i>Carpinus betulus</i> L.)	
14:09 - 14:12	Niclas Björngrim - Colour response of heat treated spruce and pine with different surface coatings in outdoor exposure	
14:12 - 14:15	Elizabeth Dunningham - New substrates for wood modification. Characterising pore size distributions in variously dried softwood	
14:15 - 14:18	Bruno Esteves - Determination of resistance of thermally treated wood to weather conditions in different countries (HTW)-Preliminary results	
14:18 - 14:21	Philippe Gérardin - Investigation of <i>Abies alba</i> wood thermal stability according to its radial position	
14:21 - 14:24	Wang Hankun - Properties improvement of bamboo materials through furfurylation	
14:24 - 14:27	Saara Hautamäki - Veneer modification with fire retardant chemicals	
14:27 - 14:30	Mohamed Jebrane - Natural Weathering and Photostability of Wood Modified by Fatty Acid Esters	
14:30 - 14:33	Michal Kroupa - Effects of thermal modification on bending properties and chemical structure of Iroko and Padauk	
14:33 - 14:36	Ville Lahtela – Modified wood in actual use and its weathering performance after outdoor exposure	
14:36 - 14:39	David Lorenzo - Performance of thermal modified radiata pine in real cases of facades and deckings in North Spain	
14:39 - 14:42	Tillmann Meints - Water free PEG impregnation of hardwood veneer using a roll press	
14:42 - 14:45	Josip Miklečić - The impact of cerium dioxide nanoparticles on thermally modified wood-coating system during weathering	
14:45 - 14:48	Eiichi Obataya - Application of time-temperature-humidity superposition to the hygrothermally accelerated ageing of spruce wood	
14:48 - 14:51	Samuel Olaniran – Preliminary studies on the effect of acetylation and subsequent weathering on tensile strength and stiffness of Rubber wood (<i>Hevea brasiliensis</i>)	
14:51 - 14:54	Solange de Oliveira Araújo – Mild torrefaction pre-treatment of eucalyptus aiming at its energetic valorisation	
14:54 - 14:57	Sabrina Puttmann - Influence of various polyethylene glycol treatments on the dimensional stability of beech wood	
14:57 - 15:00	Ladislav Reinprecht - Adhesion of coatings to plasma modified wood at accelerated weathering	
15:00 - 15:03	Tuuli Uimonen - Measuring Accessibility of OH groups in Scots Pine with Dynamic Vapour Sorption Apparatus	
15:03 - 15:06	Richard Wascher - Plasma treatment of wood veneers: a review	
15:06 - 15:09	Mario Zauer - Saturated gaseous ammonia treatment for improved densification of beech wood – Sorption and mechanical properties	
15:09 - 15:12	Vjekoslav Živković - Wood Natural surface ageing affects bonding quality of thermally modified	
15:15 - 16:30		<i>Foyer</i>

Session Four A: Properties 1		<i>Auditorium</i>
Session chair: Bòke Tjeerdsma		
16:30 - 16:45	Stergios Adamopoulos – The potential for the use of acetylated wood in musical instruments making	
16:45 - 17:00	Lothar Clauder - Influence on acoustical properties of resonant soundboard material through different processes of thermal modification	
17:00 - 17:15	Callum Hill - Measuring the Free Hydroxyl Content in Wood Modified by Acetic or Propionic Anhydride	
17:15 - 17:30	Benedikt Neyses – Pre-treatment with Ionic Liquids or Organic Superbases to Reduce the Spring-Back and Set-Recovery of Surface-Densified Scots Pine	
17:30 - 17:45	Andreas Treu - Potential solutions for gluing acetylated wood in load bearing constructions	
17:45 - 18:00	Zhijun Zhang - Combustion behaviour of wood chemically modified with DMDHEU-, PF-, and MF-resins	
Session Four B: Thermal modification		<i>Knoefzaal</i>
Session chair: Philippe Gérardin		
16:30 - 16:45	Joris van Acker - Potential to limit variation in durability of thermally modified timber	
16:45 - 17:00	Ottaviano Allegretti - Thermovuoto thermal modification of eight European wood species	
17:00 - 17:15	Michael Altgen - Differences in the mechanical behaviour of wood after thermal modification in oven-dry or water-saturated state	
17:15 - 17:30	Miha Humar - Thermal modification of wax impregnated wood	
17:30 - 17:45	Wim Willems - The role of accessible hydroxyl groups in reversible and irreversible EMC changes by thermal wood modification	
17:45 - 20:00		Networking / Social event / Tour Zoo
		<i>Bush terras</i>
20:00 - 23:30		Conference Dinner
		<i>Safari restaurant</i>

Tuesday 18 September

08:20 - 08:30	Welcome / announcements – Bôke Tjeerdsma	<u>Auditorium</u>
Session Five: COST FP 1407 Session chair: Andreja Kutnar		
<u>Auditorium</u>		
08:30 - 08:45	Christine Gérardin - Wood Furfurylation as a way to valorise European Beech and promote Circular and Bio-Economy	
08:45 - 09:00	Charlotte Grosse - Dynamic Mechanical Thermal Analysis of Wood Modified with Bio-Polyesters	
09:00 - 09:15	Dean Lipovac - Perception and evaluation of modified wood	
09:15 - 09:30	Mahdi Mubarok - Valorization of Beech Wood through Development of Innovative Friendly Environmentally Chemical Modification Treatments	
09:30 - 09:45	Carmen-Mihaela Popescu - Infrared spectroscopy and chemometric methods for the evaluation of the thermal/chemical treatment effectiveness of hardwoods	
09:45 - 10:00	Anna Sandak - Performance of modified wood in service – multi-sensor and multi-scale evaluation	
10:00 - 10:15	Lars Tellnes - Carbon footprint of decking materials- a comparison of modified wood and preservative treated wood	
10:15 - 10:45 Coffee		
<u>Foyer</u>		
Session Six A: Properties 2 Session chair: Marina van der Zee		
<u>Auditorium</u>		
10:45 - 11:00	Ferry Bongers - Strength classification of acetylated radiata pine	
11:00 - 11:15	Lukas Emmerich - Effect of DMDHEU modification on physical and mechanical properties of top-layer lamellas for multi-layer parquet flooring	
11:15 - 11:30	Giacomo Goli - Cutting forces when machining thermally modified poplar – preliminary results	
11:30 - 11:45	Boštjan Lesar - Properties of MMA treated thermally modified Norway spruce wood	
11:45 - 12:00	Rebecka Ringman - Differential expression of <i>Postia placenta</i> wood decay genes in modified wood	
Session Six B: Chemical modification Session chair: Dennis Jones		
<u>Knoefzaal</u>		
10:45 - 11:00	Vladimirs Biziks - Suitability of Lignin-Derived Monophenols to Replace Phenol in Phenol-Formaldehyde Resin for the Use in Wood Treatment	
11:00 - 11:15	Emmanuel Fredon – A new method of wood protection by chemical modification with polyglycerol succinate copolymer	
11:15 - 11:30	Leo Felix Munier - The effect of humidity on the dynamic-mechanical behaviour of phenol-formaldehyde impregnated beech wood veneer	
11:30 - 11:45	Marion Noël - Biopolyesters for wood modification: technical validation towards implementation	
11:45 - 12:00	Kelly Peeters - The Maillard reaction for wood modification: The influence of reagent concentrations, reaction temperature and soaking time on the leachability and cell wall penetration of reagents	
12:00 - 13:15 Lunch		
<u>Foyer</u>		

Session Seven: Poster Session 2		<i>Auditorium</i>
Session chair: Joris Van Acker		
13:15 - 13:18	Bruno Andersons - Wood thermal modification and impregnation: some aspects of double treatment	
13:18 - 13:21	Benjamin Arminger - Hydrophobisation of hardwood surfaces by means of environmentally-friendly fine wax particles	
13:21 - 13:24	Mátyás Báder - Further Treatment Option after Longitudinal Wood Compression	
13:24 - 13:27	Miklós Bak - Effect of combined modification processes on the physical properties of wood	
13:27 - 13:30	Joran van Blokland - Bending properties and strain fields of thermally modified timber	
13:30 - 13:33	Tobias Dietrich - Thermomechanical (TM) treatment of beech wood (<i>Fagus sylvatica</i> L.) to substitute Indian rosewood (<i>Dalbergia latifolia</i> ROXB.) in musical instruments - mechanical and acoustic properties	
13:33 - 13:36	Elizabeth Dunningham - Colour Stability Testing: Comparison of test methods	
13:36 - 13:39	Tom Franke - Mineralization of wood with calcium oxalate	
13:39 - 13:42	Sven Gerullis - Preparation of thin functional coatings on wood and WPC materials using atmospheric pressure plasma jets	
13:42 - 13:45	Juris Grinins - Investigation of Birch Wood Impregnation with Phenol-Formaldehyde (PF) Resins	
13:45 - 13:48	Marek Grzešekiewicz - Thermal properties and density profile of poplar wood (<i>Populus nigra</i> L.) thermally and thermo-mechanically modified	
13:48 - 13:51	Saara Hautamäki - Water sorption properties of surface charred wood	
13:51 - 13:54	René Herrera Díaz - Energy dispersive x-ray fluorescence (ED-XRF) for the multi-elemental analysis of thermally modified wood treated with coatings systems	
13:54 - 13:57	Mohamed Jebrane - Thermowood® vs Termovuoto process – comparison of thermally modified timber in industrial conditions	
13:57 - 14:00	Yang Lihu - Study on Drying Characteristics of Poplar Wood Impregnated with Urea- formaldehyde Resin	
14:00 - 14:03	Marta Petrillo - Life cycle assessment of bio-based façades during and after service life: maintenance planning and re-use	
14:03 - 14:06	Carmen-Mihaela Popescu - Raman spectral imaging of chemically modified Scots pine	
14:06 - 14:09	Dan Ridley-Ellis - Changes in longitudinal modulus of elasticity of Douglas-fir during low temperature thermal treatment	
14:09 - 14:12	Leila Rostom - Investigation of the effect of moderate heat treatment on wood hygroscopicity by NMR relaxometry	
14:12 - 14:15	Anna Sandak - Effect of wood modification and weathering progress on the radiation emissivity	
14:15 - 14:18	Ekaterina Sidorova - Composition of monosaccharides in aqueous extracts from thermally modified wood	
14:18 - 14:21	Morwenna Spear - Insights into stability of glued joints between thermally modified timber: adaptation of an artificial weathering test	
14:21 - 14:24	Gianluca Tondi - Water resistant tannin polymers	
14:24 - 14:27	Maximilian Wentzel - Dynamic and static mechanical properties of thermally modified <i>Eucalyptus nitens</i> in an open and closed reactor system	
14:30-15:15		<i>Foyer</i>

Coffee /Tea and poster viewing

Session Eight: Performance		<i><u>Auditorium</u></i>
Session chair: Callum Hill		
15:15 - 15:30	Changhua Fang - Enhancing the material properties of wood through furfurylation	
15:30 - 15:45	Sven Hertrich - Comparative studies on the biological durability of identical thermally modified wood from field and laboratory tests	
15:45 - 16:00	Wolfram Scheiding - Appearance of solid wood decking: requirements and assessment	
16:00 - 16:45	René Klaassen - Monitoring the performance of Accoya in different applications	
16:45 - 17:00	Holger Miltz - Performance of chemically modified wood under marine conditions during nine years of exposure	
17:00 -17:15 Announcements		<i><u>Auditorium</u></i>
17:15 - 17:20 Close of the Conference		<i><u>Auditorium</u></i>