



PROVISIONAL PROGRAMME OF THE 11TH EUROPEAN CONFERENCE ON WOOD MODIFICATION

DAY 1 15/04/2024

08.15 Registration and welcome coffee

To be confirmed

08.50 Welcome

09.10	Session 1	EquinOCS	Industrial	Presenter	Chair: Julia Carmo
09.10	1.1	132	What we know and what we still don't know about industrial TM plants producers in Italy	Ottaviano Allegretti	Ottaviano Allegretti
09.30	1.2	37	Certification of Thermally Modified Timber - the experience and view of an industrialist	Bror MOLDRUP	Bror Moldrup
09.40	1.3	42	The thermally treated wood in the world with Termo Vuoto method	Alessio Lucarelli	Alessio Lucarelli , Umberto Pagnozzi
09.50	1.4	79	Testing and approval of modified wood within NTR labelling system	Ramunas Digaitis	Ramunas Digaitis , Niels Morsing, Fredrik Westin
10.00	1.5	117	Thermal Modification of Wood: Challenges & Opportunities in India	Manoj Dubey	Manoj Dubey
10.10	1.6	131	STYL+WOOD® system for the thermal modification of wood	Edoardo Rigoni	Michele Bigon , Sonia Marchiori
10.20	1.7	134	Commercial wood products achieved by industrial thermal treatment process	Alessandro Porcu	Paola Cetera , Alessandro Porcu

10.30 Coffee

11.30	Session 2	Modification with chemicals	Chair: Philippe Gerardin		
11.30	2.1	21	Studying the impact of a silicone oil treatment on the elasto-mechanical properties of wood	Holger Militz	Lukas Emmerich , Kilian Erdelen , Holger Militz
11.40	2.2	35	Modifying wood with a bio-based thermosetting resin – different approaches to curing and drying	Christoph Hötte	Christoph Hötte , Holger Militz
11.50	2.3	46	Hydrophobisation of beech wood scantlings with radiation-curing epoxidised vegetable oils for use as dimensionally stable components in exterior applications	Christiane Swaboda	Christiane Swaboda , Roger Scheffler
12.00	2.4	55	Modification of Scots pine sapwood with tannin-based formulations	Reza Hosseinpourpia	Ahmed Sheikh Ali , Gianluca Tondi , Filippo Rizzo , Reeta-Maria Stöd , Reza Hosseinpourpia
12.10	2.5	125	Improving fire resistance of wood through a combined chemical and thermo-mechanical treatment	Črt Svajger	Črt Svajger , Alexander Scharf , Chia-feng Lin , Olov Karlsson , Dennis Jones , Miha Humar , Dick Sandberg
12.20	2.6	9	Development of novel guitar fretboards by thermal modification and impregnation with PF-resin of beech (Fagus sylvatica) and maple (Acer ssp.) wood	Christina Zwanger	Christina Zwanger , Marcus Müller
12.30	2.7	91	A study of the influence of the curing conditions on Scots pine treated with SorCA coupled with catalysts	Adèle Chabert	Adèle Chabert , Katarzyna Kurkowiak , Holger Militz
12.40	2.8	101	Wood modification by different chestnuts tannin - furfuryl alcohol resins and effect on conferred wood durability	Christine Gerardin Charbonnier	Christine Gerardin Charbonnier , Joao Vitor Dorini , Pedro Gonzales de Cademartori , Philippe Gerardin

13.00 LUNCH

14.15	Session 3	POSTERS 1	Chair: Joris van Acker		
14.15	3.01	12	Heat treatment of Cryptomeria japonica from Azores	Bruno Esteves	Yurlet Mercado , Lina Nunes , Bruno Esteves , Luisa Paula Cruz Lopes
14.18	3.02	23	Effects of QUV Accelerated weathering on surface hardness of thermally modified woods (Fagus Sylvatica L. and Pinus nigra)	Hektor Thoma	Halta Cota , Entela Lato , Leonida Peri , Hektor Thoma , Doklea Zuku , Dritan Ajdinaj , Erald Kola , Marco Togni , Giacomo Goli , Ottaviano Allegretti
14.21	3.03	24	Effect of Thermal Post-Treatment on the Properties of Densified Ceiba pentrandra Wood	Claudio Del Menezzi	Larissa Mesquita do Vale , Claudio Del Menezzi
14.24	3.04	32	Analysis of thermally modified Norway spruce shingles after eight years of use	Boštjan Lesar	Boštjan Lesar , Davor Kržišnik , Miha Humar
14.27	3.05	34	Physical properties of thermally modified Gmelina arborea wood modified under different process conditions	Holger Militz	Samuel Olaniran , Holger Militz
14.30	3.06	39	Effect of thermal treatment on the interaction of wood with liquid water	Edgars Kuka	Dace Cirule , Edgars Kuka , Ingeborga Andersone , Bruno Andersons
14.33	3.07	44	Direct evaluation of the effect of thermal treatment on the parallel compression strength of wood	Claudio Del Menezzi	Rossana Rosa , Isabella de Sá , Bento Viana , Paula Dornelles , Lucia Garcia , Claudio Del Menezzi , Annie Cavalcante
14.36	3.08	51	Increasing opportunities for Maillard-type reactions in wood through the addition of glucose and citric acid to bicine and tricine modification	Domen Borko	Domen Borko , Alexander Scharf , Chia-feng Lin , Olov Karlsson , Dennis Jones , Miha Humar , Dick Sandberg
14.39	3.09	52	Thermally Modified Wood in Wood-PLA Composites for 3D Printing	Daša Krapež Tomec	Daša Krapež Tomec , Mirko Kariž , Manja Kitek Kuzman
14.42	3.10	54	Plywood Panels Made of Alternate Layers of Thermally Densified and Non-densified Alder and Birch Veneers	Pavlo Bekhta	Pavlo Bekhta , Tomáš Pipiška , Vladimir Gryc , Pavel Král , Jozef Ráheľ , Jan Vaněrek , Ján Sedláčik
14.45	3.11	66	Improving the Commercial Value of Some Canadian West Coast Species through Thermal Modification	Gregory Smith	Yaohui Liu , Gregory Smith , Philip D. Evans , and Stavros Avramidis

14.48	3.12	67	Durability of thermal modified wood of Pinus pinaster, Pinus radiata and Pinus sylvestris from Galicia, Spain	David Lorenzo	David Lorenzo
14.51	3.13	74	Effect of thermal modification on the color of Hymenaea spp. and Ficus sp. wood	Kamilly da Silva Pereira	Kamilly da Silva Pereira , Anna Clara Oliveira Ruf, Paulo Henrique dos Santos Silveiras, Djeison Batista, Victor Fassina Brocco, Saulo Lima
14.54	3.14	76	The main challenges in bonding heat-treated wood	Milan Sernek	Milan Sernek
14.57	3.15	84	Surface Properties of Thermally Modified Beech Wood After Radio-Frequency Discharge Plasma Treatment	Ján Sedláčik	Ján Sedláčik , Pavlo Bekhta, Igor Novák, Angela Kleinová, Ján Matyašovský, Peter Jurkovič
15.00	3.16	90	Effect of paraffin-thermal modification on water absorption and dimensional stability of Louro-preto wood (Nectandra dioica)	Saulo Lima	Saulo Lima , Anna Clara Oliveira Ruf, Kamilly da Silva Pereira, Paulo Silveiras, Djeison Batista, Fernando Andrade
15.03	3.17	95	Study of the machinability of thermally and chemically modified wood for art objects	Leila Rostom	Leila Rostom , Jérémie Damay, Philippe Gerardin, Michael Jousserand
15.06	3.18	99	Moisture diffusion characteristics of thermally modified beech wood	Aleš Straže	Aleš Straže , Primoz Tomec, Zeljko Gorisek, Jure Žigon
15.09	3.19	103	Exploring the Mechano-sorptive Behavior of Thermally Modified Wood	Giacomo Goli	Claude Feldman Pambou Nziengui, Giacomo Goli , Rostand Moutou Pitti
15.12	3.20	110	Temperature and moisture content effects on wood compressive properties	Hussein Daher	Hussein Daher , Sabine Caré, Gilles Forêt, Loïc Payet
15.15	3.21	111	The impact of various heat post-treatments on moisture distribution, Brinell hardness, dimensional stability and set recovery on densified poplar	Elena Jäger	Elena Jäger , Guillaume Andre, Thomas Volkmer
15.18	3.22	126	Correlation between color and biodeterioration of short-rotation thermally modified teak wood	Anna Clara Oliveira Ruf	Anna Clara Oliveira Ruf , Kamilly da Silva Pereira, Saulo José da Costa Lima, Paulo Henrique dos Santos Silveiras, Jessica Sabrina da Silva Ferreira, Jaqueline Rocha de Medeiros, Adriano Ribeiro de Mendonça, Juarez Benigno Paes, Djeison Batista

15.30 COFFEE

16.30 Session 4

Modification with chemicals

Chair: Holger Militz

16.30	4.01	102	Acetylation of European hornbeam wood (Carpinus betulus L.) – An 8-year-long study	Robert Nemeth	Robert Nemeth , Fanni Fodor
16.40	4.02	10	Solvent-exchange acetylation of simulated green Scots pine wood	Mikko Valkonen	Mikko Valkonen , Md Tipu Sultan, Lauri Rautkari
16.50	4.03	11	Mechanical properties and biological durability of wood modified with PEG and various carboxylic acids	Melissa Christ	Melissa Christ , Nicole Flaig, Marcus Müller
17.00	4.04	48	Novel wood modification through the use of heterocyclic organic compounds	Alexander Scharf	Alexander Scharf , Henric Dernegård, Johan Oja, Dick Sandberg, Dennis Jones
17.10	4.05	49	Combining Kraft lignin-glyoxal and organic phase-change materials for a modified wood with thermal-energy storage capacity	Olov Karlsson	Chia-feng Lin, Olov Karlsson , Dennis Jones, Dick Sandberg
17.20	4.06	56	Compatibility of lignocellulosic materials to form thermoplastic film by a single esterification reaction: wood and natural fibers	Prabu Satria Sejati	Prabu Satria Sejati , Laura Roche, Jennifer Afrim, Vincent Mariani, Frédéric Fradet, Philippe Gerardin, Firmin Obounou Akong, Firmin Obounou Akong
17.30	4.07	80	Furfurylated wood : using Pyrolysis-GC/MS to Characterize Polymer-Wood Bonds Existence	Stephane Dumarçay	David Hentges, Philippe Gerardin, Stephane Dumarçay
17.40	4.08	86	Mould growth, fungal growth and strength of wood treated with maleic anhydride combined with sodium hypophosphite	Dennis Jones	Lone Ross, Gry Alfretdsen, Olov Karlsson, Dennis Jones , George I. Mantanis, Dick Sandberg, Injeong Kim
17.50	4.09	113	Effect of lactic acid impregnation on some physical properties of wood	Miklós Bak	Miklós Bak , Robert Nemeth, Mátyás Báder
18.00	4.10	138	Relevant bonding aspects of acetylated beech (Fagus sylvatica L.) LVL for load-bearing construction in exterior use	Maik Slabohm	Maik Slabohm , Jan-Oliver Haase, Holger Militz

18.15 CLOSE DAY 1

20.00 CONFERENCE BANQUET



ECWMTI

The 11th European Conference
on Wood Modification

FLORENCE, IT



15.04.24
16.04.24

PROVISIONAL PROGRAMME OF THE 11TH EUROPEAN CONFERENCE ON WOOD MODIFICATION

DAY 2

16/04/2024

08.15 Arrival and welcome coffee

09.00 Session 5 EquinOCS Analysis			Presenter	Chair: Marina van der Zee
09.00	5.01	8	VOCs emission from thermally treated poplar solid wood and plywood	Francesco Negro <i>Corrado Cremonini, Francesco Negro, Roberto Zanuttini</i>
09.10	5.02	31	Physical, mechanical and biological tests of solid wood and bio-composites with bioPCM and thermal characteristics of small-scale models in three European countries	Sabrina Palanti <i>Sabrina Palanti, Giovanni Aminti, Andrea Atena, Paolo Burato, Michele Brunetti, Gaye Köse Demirel, Özge Nur Erdeyer, Fabio De Francesco, Mohamed Jebrane, Meysam Nazari, Michela Nocetti, Güliz Öztürk, Benedetto Pizzo, Thomas Schnabel, Federico Stefani, Ali Temiz, Nasko Terziev, Jakub Grzybek</i>
09.20	5.03	36	Comprehensive multi-scale investigation of heat treated wood at room or elevated temperature: Summary of our decade's researches	Siqun Wang <i>Siqun Wang, Dong Xing, Xinzhou Wang, Deliang Xu, Yujie Meng, Jian Li, Timothy Young</i>
09.30	5.04	114	Resistance of thermally and chemically modified timber against soft rot and findings to improve the lab test	Wolfram Scheiding <i>Wolfram Scheiding, Kordula Jacobs, Christian Brischke, Susanne Bolmus</i>
09.40	5.05	116	The chemical interactions between phenolic resin and wood studied by liquid-state NMR spectroscopy.	Carlo Kupfernagel <i>Carlo Kupfernagel, Daniel Yelle, Morwenna Spear, Graham Ormondroyd, Andrew Pitman</i>
09.50	5.06	136	Decay and Termite Resistance on Sapwood, Transition Wood, and Heartwood of Short Rotation Teak Wood by Chemical and Thermal Modification	Resa Martha <i>Resa Martha, Beatrice George, Istie Sekartining Rahayu, Philippe Gerardin, Wayan Darmawan</i>
10.00	5.07	73	The Influence of Moisture Content and Thermal Modification on the Non-Linearity in Mode I Fracture of Spruce Wood	Miran Merhar <i>Miran Merhar, Rostand Moutou Pitti</i>

10.10 COFFEE

11.00 Session 6 Thermal Modification			Presenter	Chair: Giacomo Goli
11.00	6.01	26	Influence of thermal modification on fatigue life of Norway spruce wood	Miha Humar <i>Miha Humar, Boštjan Lesar, Davor Kržišnik, Gorazd Fajdiga</i>
11.10	6.02	40	Detection of the aromatic profile of different thermally modified wood species	Valentina Lo Giudice <i>Valentina Lo Giudice, Angelo Rita, Luigi Todaro</i>
11.20	6.03	64	Wood modification methods and fire resistance of façades/cladding	Joris Van Acker <i>Joris Van Acker, Liselotte De Ligne, Bogdan Parakhonskiy, Andre Skirtach, Jan Van den Bulcke, Marcy Durimel</i>
11.30	6.04	65	Comparison of major wood heat treatment technologies paves the way for a generalized mass loss kinetic model	Bertrand Marcon <i>Bertrand Marcon, Giacomo Goli</i>
11.40	6.05	108	Natural weathering of thermally modified wood cladding treated with fire retardants at different exposure levels	Inge Wuijters <i>Inge Wuijters, Imke De Windt, Kurt De Proft, Lieven De Boever</i>

11.55 Session 7 Densification and mineralisation			Presenter	Chair: Dennis Jones
11.55	7.01	92	Frictional behaviour of modified-in-surface hardwoods preliminary obtained through strong tribological transformation	Pierre-Henri Cornuault <i>Pierre-Henri Cornuault, Stani Carbillet, Luc Carpentier</i>
12.05	7.02	93	Removal of non-cellulosic wood constituents and subsequent densification for improved mechanics of wood	Wolfgang Gindl-Altmutter <i>Matthias Jakob, Ulrich Müller, Wolfgang Gindl-Altmutter</i>
12.15	7.03	112	Viscoelastic properties of thermo-hydro-mechanically treated Scots pine (<i>Pinus sylvestris</i> L.)	Lei Han <i>Lei Han, Dick Sandberg, Andreja Kutnar</i>
12.25	7.04	25	Wood modification via geopolymer impregnation: Effects on decay, mechanical properties and fire retardancy	Aitor Barbero Lopez <i>Aitor Barbero Lopez, Paiva Kinnunen, Antti Haapala</i>
12.35	7.05	61	Wood modification by bio-inspired hydroxyapatite mineralization	Matic Sitar <i>Matic Sitar, Boštjan Lesar, Andreja Pondelak</i>
12.45	7.06	122	An innovative process of mineralisation with magnesium compounds improves fire properties of wood	Andreja Pondelak <i>Andreja Pondelak, Andrijana Sever Škapin, Nataša Knez</i>

13.00 LUNCH

14.00 Session 8 POSTERS 2			Presenter	Chair: Callum Hill
14.00	8.01	14	Modification of Wood by Fast Pyrolysis Bio-Oil – results from the screening test	Anna Sandak <i>Anna Sandak, Jakub Sandak, Faksawat Poohphajai, Rene Herrera Diaz, Ana Gubenšek, Karen Butina Ogorelec, Lex Kiezebrink, Klaas Jan Swager, Hans Heeres, Bert van de Beld</i>
14.03	8.02	72	Anatomical variations between natural and delignified wood: A case of study of some Italian "minor" wood species	Francesco Bolognesi <i>Francesco Bolognesi, Alessandra Bianco, Francesca Romana Lamastra, Marco Togni</i>
14.06	8.03	19	Improving the energy storage properties of wood by using lauric acid	Ahmet Can <i>Ahmet Can</i>
14.09	8.04	22	Evaluation of treatments for preventing resin exudation through coatings	Micael Ohman <i>Dennis Jones, Aubin Vieillescazes, Micael Ohman, Olav Karlsson, Rostand Moutou Pitti</i>
14.12	8.05	75	Preliminary evaluation of wood impregnated with oak bark-derived residuals	Rene Herrera Diaz <i>Rene Herrera Diaz, Mariem Zouari, Faksawat Poohphajai, Jakub Sandak, Anna Sandak</i>
14.15	8.06	17	Optical properties of spectrally irradiated wood	Hiroyuki SUGIMOTO <i>Hiroyuki Sugimoto, Kai Maruyama, Masatoshi Sugimori</i>
14.18	8.07	47	Exploring the potential of carbon nanodots as an UV protection reagent for wood	Dick Sandberg <i>Sarah Jue, Chia-feng Lin, Alexander Scharf, Dennis Jones, Rostand Moutou Pitti, Dick Sandberg</i>

14.21	8.08	38	Identifying influential factors affecting wettability patterns on wood surfaces through multilevel analysis	Luigi Todaro	Valentina Lo Giudice, Nicola Moretti, Angelo Rita, Luigi Todaro
14.24	8.09	43	Dimensional Stability and Sorption Properties of Acetylated and Non-Acetylated Birch Plywood as a Function of the Face Veneer Grain Angle	Jure Žigon	Jure Žigon , Tianxiang Wang, Magnus Wälinder, Aleš Straže, Yue Wang, Yue Wang
14.27	8.1	58	Upgrading sawdust from wood bark to produce new thermoplastic materials	Firmin Oboutou Akong	Firmin Oboutou Akong , Célia Pinto, Ania Belarbi, Prabu Sejati Satria, Philippe Gerardin
14.30	8.11	62	Micromorphological and chemical changes of densified ash wood (Fraxinus americana)	Alexandra Guevara Castillo	Alexandra Guevara Castillo , José Antonio Silva Guzmán, Francisco Javier Fuentes Talavera, Raúl Rodríguez Anda
14.33	8.12	69	Development of innovative methods for assembling lignocellulosic materials for the manufacture of glasses	Adrien Magne	Adrien Magne , Juliette De Nas De Tourris, Jennifer Afrim, Teldja Benzid, Prabu Satria Sejati, Firmin Obounou Akong, Robin Féron, Philippe Gerardin
14.36	8.13	77	Exploring the solid wood modification with preserved hierarchical structure via non-cellulosic substance removal	Yi Hien Chin	Yi Hien Chin , Pascal Biwole, Joseph GRIL, Christophe Vial, Rostand Moutou Pitti, Salah-Eddine Oulboukhitine, Nicolas Labonne, Yoshiki Horikawa
14.39	8.14	82	malic acid/glycerol polyester treated beech boards : curing kinetics and density distribution	Emmanuel Fredon	Emmanuel Fredon , Romain Rémond, Adèle Chabert
14.42	8.15	88	Implementing fire retardants into a biobased adhesive system for wood-based composites	Luka Kopač	Luka Kopač , Alexander Scharf, Dennis Jones, Dick Sandberg, Sergej Medved
14.45	8.16	94	Laser incising – a philosophical shift: From timber treatment to wood modification	Morwenna Spear	Morwenna Spear , Paul Mason, Geraint Williams, Graham Ormondroyd
14.48	8.17	96	X-ray CT scanning as a method for quantifying mineralization in spruce and beech woodblock	Marcy Durimel	Marcy Durimel , Liselotte De Ligne, Bogdan Parakhonskiy, Jan Van den Bulcke, Andre Skirtach, Joris Van Acker
14.51	8.18	97	Wood surface modification using metal and ceramics to make wood fire and termite resistant	Laurence Podgorski	Laurence Podgorski , Alain Denoirjean
14.54	8.19	100	Production and application of chemically modified cellulose nanofibrils	Primož Oven	Primož Oven , Ida Poljanšek, Vesna Žepič, Jaka Levanič, Urša Osolnik, Viljem Vek
14.57	8.2	50	Effects of Microwave Treatment on the Improvement in the Retention of a Preservative Product in Two Portuguese Wood Species	Fernando Mascarenhas	Fernando Mascarenhas , André Dias, Alfredo Dias, André Christoforo, Rogério Simões
15.00	8.21	115	Wood modification as an opportunity for local wood species in musical instrument making	Mario Zauer	Mario Zauer , Tobias Dietrich, Herwig Hackenberg, André Wagenführ
15.03	8.22	121	Maximum compressibility along the grain of different wood species	Robert Nemeth	Mátyás Báder, Miklós Szauer, Robert Nemeth
15.06	8.23	127	Studies on the durability of the reaction to fire performance of melamine formaldehyde resin and phosphorus polyol treated wood	Muting Wu	Muting Wu , Lukas Emmerich, Holger Militz
15.09	8.24	130	Effect of Aspen face Veneer thickness on the Fire performance of Post-manufacture Fire-Retardant treated Birch Plywood	Percy Festus Alao	Percy Festus Alao , Anti Rohumaa, Karl Harald Dembovski, Jussi Ruponen, Jaan Kers

15.15 COFFEE

16.15 Session 9

New trends

Chair: Ottaviano Allegretti

16.15		16	Ultrafast self-propelling directionally water transporting wood via constructing multi-hierarchical structures on cell wall	Yanjun Xie	Yanjun Xie
16.25		30	Delignified Wood as Substrate for Nanostructured Composites with Extended Range of Functionalities	Lars Berglund	Lars Berglund
16.35		63	Optical Wood with Switchable Solar Transmittance for All-round Thermal Management	Daxin Liang	Daxin Liang , Yanjun Xie
16.45		83	Functional transparent wood through incorporation of modified antimony-doped tin oxide nanoparticles	Zhe Qiu	Zhe Qiu
16.55		89	Enhancing Building Energy Efficiency: Impregnation of Wood with Phase Change Materials	Jakub Grzybek	Jakub Grzybek , Thomas Schnabel
17.05		137	Optical smart transparent wood via based on phase-change copolymer	Yonggui Wang	Yonggui Wang
17.15		57	Thermoplastic from wood: dream or reality?	Philippe Gerardin	Philippe Gerardin , Prabu Satria Sejati, Frédéric Fradet, Firmin Obounou Akong, Firmin Obounou Akong

17.30 CLOSING REMARKS / ECWM12

18.00 CLOSE OF CONFERENCE