




ECWM11

The 11th European Conference on Wood Modification

FLORENCE, IT 

15.04.24
16.04.24

ORAL CONTRIBUTIONS - 8 minutes presentation

#	Title	Authors
1	VOCs emission from thermally treated poplar solid wood and plywood	Corrado Cremonini, Francesco Negro , Roberto Zanuttini
2	Development of novel guitar fretboards by thermal modification and impregnation with PF-resin of beech (<i>Fagus sylvatica</i>) and maple (<i>Acer ssp.</i>) wood	Christina Zwanger , Marcus Müller
3	Solvent-exchange acetylation of simulated green Scots pine wood	Mikko Valkonen , Md Tipu Sultan, Lauri Rautkari
4	Mechanical properties and biological durability of wood modified with PEG and various carboxylic acids	Melissa Christ , Nicole Flaig, Marcus Müller
5	Ultrafast self-propelling directionally water transporting wood via constructing multi-hierarchical structures on cell wall	Yanjun Xie
6	Studying the impact of a silicone oil treatment on the elasto-mechanical properties of wood	Lukas Emmerich, Kilian Erdelen, Holger Militz
7	Wood modification via geopolymer impregnation: Effects on decay, mechanical properties and fire retardancy	Aitor Barbero Lopez, Paivo Kinnunen, Antti Haapala
8	Influence of thermal modification on fatigue life of Norway spruce wood	Miha Humar , Boštjan Lesar, Davor Kržišnik, Gorazd Fajdiga
9	Hygroscopic moisture sorption at hydroxyl groups in modified wood	Wim Willems
10	Delignified wood as substrate for nanostructured composites with extended range of functionalities	Lars Berglund
11	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, 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
12	Modifying wood with a bio-based thermosetting resin – different approaches to curing and drying	Christoph Hötte, Holger Militz
13	Comprehensive multi-scale investigation of heat treated wood at room or elevated temperature: Summary of our decade's researches	Siqun Wang, Dong Xing, Xinzhou Wang, Deliang Xu, Yujie Meng, Jian Li, Timothy Young
14	Certification of Thermally Modified Timber - the experience and view of an industrialist	Bror Moldrup
15	Detection of the aromatic profile of different thermally modified wood species	Valentina Lo Giudice, Angelo Rita, Luigi Todaro
16	The thermally treated wood in the world with Termo Vuoto method	Alessio Lucarelli , Umberto Pagnozzi
17	Hydrophobisation of beech wood scantlings with radiation-curing epoxidised vegetable oils for use as dimensionally stable components in exterior applications	Christiane Swaboda , Roger Scheffler
18	Novel wood modification through the use of heterocyclic organic compounds	Alexander Scharf, Henric Dernegård, Johan Oja, Dick Sandberg, Dennis Jones
19	Combining Kraft lignin-glyoxal and organic phase-change materials for a modified wood with thermal-energy storage capacity	Chia-feng Lin, Olov Karlsson, Dennis Jones, Dick Sandberg
20	Leaching resistance and antifungal efficacy of natural wood preservatives comprising bark polyphenols and bio-based crosslinkers	Petri Widsten, Lauri Tuominen, Marc Borrega, Andreas Treu, Miriam Kellock
21	Modification of Scots pine sapwood with tannin-based formulations	Ahmed Sheikh Ali, Gianluca Tondi, Filippo Rizzo, Reeta-Maria Stöd, Reza Hosseinpourpia
22	Compatibility of lignocellulosic materials to form thermoplastic film by a single esterification reaction: wood and natural fibers	Prabu Satria Sejati, Laura Roche, Jennifer Afrim, Vincent Mariani, Frédéric Fradet, Philippe Gerardin, Firmin Obounou Akong, Firmin Obounou Akong
23	Thermoplastic from wood: dream or reality?	Philippe Gerardin, Prabu Satria Sejati, Frédéric Fradet, Firmin Obounou Akong, Firmin Obounou Akong
24	Wood modification by bio-inspired hydroxyapatite mineralization	Matic Sitar , Boštjan Lesar, Andreja Pondelak
25	Optical wood with switchable solar transmittance for all-round thermal management	Daxin Liang, Yanjun Xie
26	Wood modification methods and fire resistance of façades/cladding	Joris Van Acker, Liselotte De Ligne, Bogdan Parakhonskiy, Andre Skirtach, Jan Van den Bulcke, Marcy Durimel
27	Comparison of major wood heat treatment technologies paves the way for a generalized mass loss kinetic model	Bertrand Marcon , Giacomo Goli
28	The influence of moisture content and thermal modification on the non-linearity in mode I fracture of spruce wood	Miran Merhar, Rostand Moutou Pitti

29	Testing and approval of modified wood within NTR labelling system	Ramunas Digaitis , Niels Morsing, Fredrik Westin
30	Furfurylated wood : using pyrolysis-GC/MS to characterize polymer-wood bonds existence	David Hentges, Philippe Gerardin, Stephane Dumarcay
31	Functional transparent wood through incorporation of modified antimony-doped tin oxide nanoparticles	Zhe Qiu
32	Mould growth, fungal growth and strength of wood treated with maleic anhydride combined with sodium hypophosphite	Lone Ross, Gry Alfreksen, Olov Karlsson, Dennis Jones, George I. Mantanis, Dick Sandberg, Injeong Kim
33	Enhancing building energy efficiency: Impregnation of wood with phase change materials	Jakub Grzybek, Thomas Schnabel
34	A study of the influence of the curing conditions on Scots pine treated with SorCA coupled with catalysts	Adèle Chabert, Katarzyna Kurkowiak, Holger Militz
35	Frictional behaviour of modified-in-surface hardwoods preliminary obtained through strong tribological transformation	Pierre-Henri Cornuault, Stani Carbillet, Luc Carpentier
36	Removal of non-cellulosic wood constituents and subsequent densification for improved mechanics of wood	Matthias Jakob, Ulrich Müller, Wolfgang Gindl-Altmutter
37	Wood modification using high-energy glow discharge plasmas	Kenneth Cheng, Dengcheng Feng, Philip Evans
38	Wood modification by different chestnuts tannin - furfuryl alcohol resins and effect on conferred wood durability	Christine Gerardin Charbonnier, Joao Vitor Dorini, Philippe Gerardin
39	Acetylation of European hornbeam wood (Carpinus betulus L.) – An 8-year-long study	Robert Nemeth, Fanni Fodor
40	Natural weathering of thermally modified wood cladding treated with fire retardants at different exposure levels	Inge Wuijters, Imke De Windt, Kurt De Proft, Lieven De Boever
41	Developing artificial heartwood for window industry	Matti Myrskyläinen, Marios Nicolaou-Ioannou, Filippo Rizzo, Reeta-Maria Stöd , Pekka Södervall, Olli Koski
42	Viscoelastic properties of thermo-hydro-mechanically treated Scots pine (Pinus sylvestris L.)	Lei Han, Dick Sandberg, Andreja Kutnar
43	Effect of lactic acid impregnation on some physical properties of wood	Miklós Bak , Robert Nemeth, Mátyás Báder
44	Resistance of thermally and chemically modified timber against soft rot and findings to improve the lab test	Wolfram Scheiding , Kordula Jacobs, Christian Brischke, Susanne Bollmus
45	The chemical interactions between phenolic resin and wood studied by liquid-state NMR spectroscopy.	Carlo Kupfernagel, Daniel Yelle, Morwenna Spear, Graham Ormondroyd, Andrew Pitman
46	Thermal modification of wood: Challenges & opportunities in India	Manoj Dubey
47	Targeted modification of wood: A novel tool for investigating wood-water interactions	Andrea Ponzecchi, Lisbeth Thygesen, Maria Fredriksson, Emil Thybring, Ramunas Digaitis
48	An innovative process of mineralisation with magnesium compounds improves fire properties of wood	Andreja Pondelak , Andrijana Sever Škapin, Nataša Knez
49	Improving fire resistance of wood through a combined chemical and thermo-mechanical treatment	Črt Svajger, Alexander Scharf, Chia-feng Lin, Olov Karlsson, Dennis Jones, Miha Humar, Dick Sandberg
50	STYL+WOOD® system for the thermal modification of wood	Michele Bigon, Sonia Marchiori
51	Comparison of industrial TM produced in Italy: What we know and what we still don't know from laboratory tests in controlled conditions	Ottaviano Allegretti, Ignazia Cuccui, michele Brunetti, michela nocetti, Sabrina Palanti, Hektor Thoma, Nasko Terziev, Luca Cappellin, Franco Biasioli
52	Commercial wood products achieved by industrial thermal treatment process	Paola Cetera, Alessandro Porcu
53	Decay and termite resistance on sapwood, transition wood, and heartwood of short rotation Teak wood by chemical and thermal modification	Resa Martha, Beatrice George, Istie Sekartining Rahayu, Philippe Gerardin, Wayan Darmawan
54	Optical smart transparent wood via based on phase-change copolymer	Yonggui Wang
55	Relevant bonding aspects of acetylated beech (Fagus sylvatica L.) LVL for load-bearing construction in exterior use	Maik Slabohm, Jan-Oliver Haase, Holger Militz

POSTER CONTRIBUTIONS - 3 minutes presentation

#	Title	Authors
1	Heat treatment of Cryptomeria japonica from Azores	Yurlet Mercado, Lina Nunes, Bruno Esteves, Luisa Paula Cruz Lopes
2	Modification of wood by fast pyrolysis Bio-Oil – results from the screening test	Anna Sandak , Jakub Sandak, Faksawat Poohphajai, Ana Gubenšek, Karen Butina Ogorelec, Lex Kiezebrink, Klaas Jan Swager, Hans Heeres, Bert van de Beld, RENE HERRERA DIAZ
3	Optical properties of spectrally irradiated wood	Hiroyuki Sugimoto, Kai Maruyama, Masatoshi Sugimori
4	Evaluation of treatments for preventing resin exudation through coatings	Dennis Jones, Aubin Vieillescazes, Micael Öhman, Olov Karlsson, Rostand Moutou Pitti
5	Effects of QUV accelerated weathering on surface hardness of thermally modified woods (Fagus Sylvatica L. and Pinus nigra)	Holta Cota, Entela Lato, Leonidha Peri, Hektor Thoma, Doklea Quku, Dritan Ajdinaj, Erald Kola, Marco Togni, Giacomo Goli, Ottaviano Allegretti
6	Effect of thermal post-treatment on the properties of densified ceiba pentrandra wood	Larissa Mesquita do Vale, Claudio Del Menezi
7	Analysis of thermally modified Norway spruce shingles after eight years of use	Boštjan Lesar , Davor Kržišnik, Miha Humar
8	Resistance of thermally modified tauari wood against the attack of termites in laboratory tests	Paulo Henrique Silveiras, Anna Clara Oliveira Rupp, Érica Queiroz, Fernanda Maffioletti, Jessica Sabrina Ferreira, Kamilly Pereira, Saulo José Lima, Fernando Wallase Andrade, Juarez Paes, Djeison Batista
9	Physical properties of thermally modified Gmelina arborea wood modified under different process conditions	Samuel Olaniran , Holger Militz
10	Identifying influential factors affecting wettability patterns on wood surfaces through multilevel analysis	Valentina Lo Giudice, Nicola Moretti, Angelo Rita, Luigi Todaro
11	Effect of thermal treatment on the interaction of wood with liquid water	Dace Cirule, Edgars Kuka, Ingeborga Andersone, Bruno Andersons
12	Dimensional Stability and Sorption Properties of Acetylated and Non-Acetylated Birch Plywood as a Function of the Face Veneer Grain Angle	Jure Žigon , Tianxiang Wang, Magnus Wälinder, Aleš Straže, Yue Wang, Yue Wang
13	Direct evaluation of the effect of thermal treatment on the parallel compression strength of wood	Rossana Rosa, Isabella de Sá, Bento Viana, Paula Dornelles, Lucia Garcia, Claudio Del Menezi, Annie Cavalcante
14	Exploring the potential of carbon nanodots as an UV protection reagent for wood	Sarah Jue, Chia-feng Lin, Alexander Scharf, Dennis Jones, Rostand Moutou Pitti, Dick Sandberg

15	Effects of microwave treatment on the improvement in the retention of a preservative product in two portuguese wood species	<i>Fernando Mascarenhas, André Dias, Alfredo Dias, André Christofoara, Rogério Simões</i>
16	A novel method to study abrasion resistance of surface-densified wood	<i>Agathe Nouat, Dennis Jones, Alexander Scharf, Frank Schleicher, Benedikt Neyses, Rostand Moutou Pitti, Dick Sandberg</i>
17	Thermally modified wood in wood-PLA composites for 3D printing	<i>Daša Krapež Tomec, Mirko Kariž, Manja Kitek Kuzman</i>
18	Plywood panels made of alternate layers of thermally densified and non-densified Alder and Birch veneers	<i>Pavlo Bekhta, Tomáš Pipiška, Vladimír Gryc, Pavel Král, Jozef Ráhel, Jan Vaněrek, Ján Sedliačik</i>
19	Upgrading sawdust from wood bark to produce new thermoplastic materials	<i>Firmin Oboutou Akong, Célia Pinto, Ania Belarbi, Prabu Sejati Satria, Philippe Gerardin</i>
20	Micromorphological and chemical changes of densified ash wood (<i>Fraxinus americana</i>)	<i>Alexandra Guevara Castillo, José Antonio Silva Guzmán, Francisco Javier Fuentes Talavera, Raúl Rodríguez Anda</i>
21	Improving the commercial value of some canadian West Coast species through thermal modification	<i>Yaohui Liu, Stavros Avramidis</i>
22	Durability of thermal modified wood of <i>Pinus pinaster</i> , <i>Pinus radiata</i> and <i>Pinus sylvestris</i> from Galicia, Spain	<i>David Lorenzo</i>
23	Development of innovative methods for assembling lignocellulosic materials for the manufacture of glasses	<i>Adrien Magne, Juliette De Nas De Tourris, Jennifer Afrim, Teldja Benzid, Prabu Satria Sejati, Firmin Obounou Akong, Robin Féron, Philippe Gerardin</i>
24	Anatomical variations between natural and delignified wood: A case of study of some Italian "minor" wood species	<i>Francesco Bolognesi, Alessandra Bianco, Francesca Romana Lamastra, Marco Togni</i>
25	Effect of thermal modification on the color of <i>Hymenaea</i> spp. and <i>Ficus</i> sp. wood	<i>Kamily da Silva Pereira, Anna Clara Oliveira Rupf, Paulo Henrique dos Santos Silveiras, Djeison Batista, Victor Fassina Brocco, Saulo Lima</i>
26	Preliminary evaluation of wood impregnated with oak bark-derived residuals	<i>Rene Herrera Diaz, Mariem Zouari, Faksawat Poohphajai, Anna Sandak, Jakub Sandak</i>
27	The main challenges in bonding heat-treated wood	<i>Milan Sernek</i>
28	Exploring the solid wood modification with preserved hierarchical structure via non-cellulosic substance removal	<i>Yi Hien Chin, Pascal Biwole, Joseph GRIL, Christophe Vial, Rostand Moutou Pitti, Salah-Eddine Ouldboukhite, Nicolas Labonne, Yoshiki Horikawa</i>
29	malic acid/glycerol polyester treated beech boards : curing kinetics and density distribution	<i>Emmanuel Fredon, Romain Rémond, Adèle Chabert</i>
30	Surface properties of thermally modified Beech wood after radio-frequency discharge plasma treatment	<i>Ján Sedliačik, Pavlo Bekhta, Igor Novák, Angela Kleinová, Ján Matyašovský, Peter Jurkovič</i>
31	Implementing fire retardants into a biobased adhesive system for wood-based composites	<i>Luka Kopač, Alexander Scharf, Dennis Jones, Dick Sandberg, Sergej Medved</i>
32	Effect of paraffin-thermal modification on water absorption and dimensional stability of Louro-preto wood (<i>Nectandra dioica</i>)	<i>Saulo Lima, Anna Clara Oliveira Rupf, Kamily da Silva Pereira, Paulo Silveiras, Djeison Batista, Fernando Andrade</i>
33	Laser incising – a philosophical shift: From timber treatment to wood modification	<i>Morwenna Spear, Paul Mason, Geraint Williams, Graham Ormondroyd</i>
34	Study of the machinability of thermally and chemically modified wood for art objects	<i>Rostom, Jérémie Damay, Philippe Gerardin, Michael Jousserand</i>
35	X-ray CT scanning as a method for quantifying mineralization in spruce and beech woodblock	<i>Marcy Durimel, Liselotte De Ligne, Bogdan Parakhonskiy, Jan Van den Bulcke, Andre Skirtach, Joris Van Acker</i>
36	Wood surface modification using metal and ceramics to make wood fire and termite resistant	<i>Laurence Podgorski, Alain Denoirjean</i>
37	Moisture diffusion characteristics of thermally modified beech wood	<i>Aleš Straže, Primož Tomec, Zeljko Gorisek, Jure Žigon</i>
38	Production and application of chemically modified cellulose nanofibrils	<i>Primož Oven, Ida Poljanšek, Vesna Žepič, Jaka Levanič, Urša Osolnik, Viljem Vek</i>
39	Exploring the mechano-sorptive behavior of thermally modified wood	<i>Claude Feldman Pambou Nziengui, Giacomo Goli, Rostand Moutou Pitti</i>
40	<i>Pinus pinaster</i> improvement by Citric acid impregnation (Preliminary results)	<i>Mariana Sell, Luísa Paula Cruz Lopes, Lina Nunes, Bruno Esteves</i>
41	Temperature and moisture content effects on wood compressive properties	<i>Hussein Daher, Sabine Caré, Gilles Forêt, Loïc Payet</i>
42	The impact of various heat post-treatments on moisture distribution, Brinell hardness and set recovery on densified poplar	<i>Thomas Volkmer, Guillaume Andre, Elena Jäger</i>
43	Wood modification as an opportunity for local wood species in musical instrument making	<i>Mario Zauer, Tobias Dietrich, Herwig Hackenberg, André Wagenführ</i>
44	Controlling amount and location of water in wood by targeted modification and precise conditioning procedures	<i>Maria Fredriksson, Ramunas Digaitis, Jonas Engqvist, Emil Thybring</i>
45	Maximum compressibility along the grain of different wood species	<i>Mátyás Báder, Miklós Szauer, Robert Nemeth</i>
46	Correlation between color and biodeterioration of short-rotation thermally modified teak wood	<i>Anna Clara Oliveira Rupf, Kamily 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</i>
47	Studies on the durability of the reaction to fire performance of melamine formaldehyde resin and phosphorus polyol treated wood	<i>Muting wu, Lukas Emmerich, Holger Militz</i>
48	Effect of aspen face veneer thickness on the fire performance of post-manufacture fire-retardant treated Birch plywood	<i>Percy Festus Alao, Anti Rohumaa, Karl Harold Dembovski, Jussi Ruponen, Jaan Kers</i>