

**8<sup>th</sup> European Conference on Wood Modification (ECWM8)  
Final Programme 2015**

<b>Sunday 25 October</b>	
<b>17:00-20:00</b>	<b>Pre-registration</b>
<b>Monday 26 October</b>	
<b>08:00-08:45</b>	<b>Registration</b>
8:45-9:00	<b>Welcome and Opening Address – Holger Militz, Mark Hughes and Lauri Rautkari</b>
<b>Session One: Commercial opportunities for modified wood Session Chair: Mark Hughes</b>	
9:00-9:30	<b>Keynote: Duncan Mayes – Trends Impacting Modified Wood Products and the Need for Continued Evolution of Thermally Modified Wood</b>
9:30-10:00	<b>Keynote: Holger Militz – Wood Modification in Europe in the Year 2015: a Success Story?</b>
<b>10:00-10:45</b>	<b>Coffee</b>
<b>Session Two: Moisture Relationships Session Chair: Andreja Kutnar</b>	
10:45-11:00	<b>Oral 2:1 <u>Rosie Sargent</u>, Gavin Durbin and Elizabeth Dunningham Measurement of Dimensional Stability</b>
11:00-11:15	<b>Oral 2:2 <u>Henrik Heräjärvi</u>, Chenyang Cai, Jukka Antikainen, Katri Luostarinen, and Veikko Möttönen Effect of Prolonged Water Soaking on Structure and Chemistry of Thermally Modified Scots Pine and Norway Spruce Wood</b>
11:15-11:30	<b>Oral 2:3 Samuel L Zelinka, <u>Rebecka Ringman</u>, Annica Pilgård, Emil Englund Thybring, Joseph E. Jakes and Klaus Richter The Role of Chemical Transport in the Decay Resistance of Modified Wood</b>
11:30-11:45	<b>Oral 2:4 <u>Joris Van Acker</u>, Jan Van den Bulcke, Imke De Windt, Sam Colpaert and Wanzhao Li Moisture Dynamics of Modified Wood and the Relevance Towards Decay Resistance</b>
11:45-12:00	<b>Oral 2:5 <u>Carmen-Mihaela Popescu</u>, Callum A.S. Hill and Maria-Cristina Popescu Evaluation of the Water Adsorption/Desorption Process in Chemically Modified Wood by NIR Spectroscopy</b>
<b>12:00-13:30</b>	<b>Lunch</b>

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<b>Session Three: Poster Session 1</b> Session Chair: Joris Van Acker	
13:30	<b>Joris Van Acker</b> <b>Introduction to the Poster Session</b>
13:35	<b>Poster 1:1</b> Bruno Andersons, Ingeborga Andersone, Kaspars Zudrags, Vladimirs Biziks, Ilze Irbe, <u>Juris Grinins</u> and Anna Janberga <b>Birch Plywood from Hydrothermally Modified Veneers: Gluing and Properties</b>
13:38	<b>Poster 1:2</b> <u>Carolina G. de O. Griebeler</u> , Gianluca Tondi, Carmen Iglesias Rodríguez and Thomas Schnabel <b>Colour Responses of Thermally Modified <i>Eucalyptus Globulus</i> from Galicia to Artificial Weathering</b>
13:41	<b>Poster 1:3</b> <u>Teresa Lovaglio</u> , Angelo Rita, Luigi Todaro, Nicola Moretti and Maurizio D' Auria <b>Determination of Extractives Composition in Thermo-treated Wood</b>
13:44	<b>Poster 1:4</b> <u>Veikko Möttönen</u> , Yağmur Bütün, Henrik Heräjärvi, Katri Luostarinen and Juhani Marttila <b>Surface Properties and Set Recovery of Silver Birch and European Aspen Wood after Industrial Scale Compression and Thermal Modification</b>
13:47	<b>Poster 1:5</b> <u>Emilia-Adela Salca</u> , Hikaru Kobori, Tetsuya Inagaki, Yoichi Kojima and Shigehiko Suzuki <b>Evaluation of Heat Treated Veneers of Various Wood Species</b>
13:50	<b>Poster 1:6</b> <u>Wolfram Scheiding</u> , Philipp Flade and Martin Direske <b>Determination of Cracking Susceptibility of Three Thermally Modified Hardwoods by Advanced Methods</b>
13:53	<b>Poster 1:7</b> <u>Wolfram Scheiding</u> and Sebastian Stein <b>Applicability of Electrical Methods to Determine Moisture Content of Thermally Modified Timber</b>
13:56	<b>Poster 1:8</b> <u>Mario Zauer</u> , Anne Kowalewski, Irina Oberer, Robert Sproßmann and André Wagenführ <b>Development of Thermally Modified European Wood to Substitute Tropical Hardwood for the Use in Acoustic Guitars</b>
13:59	<b>Poster 1:9</b> Jürgen Bonigut, <u>Wolfram Scheiding</u> , Martin Direske and Detlef Krug <b>Dimensional Stabilization of Solid Wood Panels by Thermal Post-treatment</b>
14:02	<b>Poster 1:10</b> <u>Morwenna J. Spear</u> , Tabitha Binding, Athanasios Dimitriou and Graham Ormondroyd <b>Chemical Changes in Mild Thermal Treatment of Larch: to What Extent do they differ from full thermal modification?</b>
14:05	<b>Poster 1:11</b> <u>Jin Heon Kwon</u> , Rang-Ho Shin, Nadir Ayrilmis and Tae H Han <b>Modification of Wood by Cold Pressure and Heat-Treatment, and LVL Production</b>
14:08	<b>Poster 1:12</b> <u>Vjekoslav Živković</u> , Hrvoje Turkulin and Jakov Galeković <b>Surface Properties of Thermally Modified Wood Floorings</b>
14:11	<b>Poster 1:13</b> Aline K. Soares, Pedro H. G. de Cademartori, Patricia S. B. dos Santos, Darci A. Gatto and Dmitry V. Evtyugin (presented by <u>René Herrera</u> ) <b>Dimensional Changes of Three Eucalyptus Woods Subjected to Two-step Impregnation-heat Treatments</b>

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14:14	<b>Poster 1:14</b> <u>Bruno Esteves</u> , Fábio Ribeiro, Luísa Cruz-Lopes, José Ferreira, Idalina Domingos and Lina Nunes <b>Set-Recovery of Heat Treated Maritime Pine Wood Prior and after Compression</b>
14:17	<b>Poster 1:15</b> Cancelled
14:20	<b>Poster 1:16</b> <u>Ville Lahtela</u> and Timo Kärki <b>Effects of Thermal Modification on the Properties of Melamine-impregnated Scots Pine (<i>Pinus Sylvestris</i>) Wood</b>
14:23	<b>Poster 1:17</b> <u>Rosie Sargent</u> , Bruce Davy and Elizabeth Dunningham <b>Thermal Modification of <i>Eucalyptus Nitens</i></b>
14:26	<b>Poster 1:18</b> Diego Elustondo, <u>Ekaterina Sidorova</u> , Olov Karlsson and Dick Sandberg <b>Development of Method for Surface Modification of Wood</b>
14:29	<b>Poster 1:19</b> <u>Cláudio Del Menezzi</u> , Larissa Arruda and Ariel de Andrade <b>Preliminary Evaluation of the Thermomechanical Treatment of Tropical Hardwood Lumber</b>
14:32	<b>Poster 1:20</b> <u>Cláudio Del Menezzi</u> , Priscila Santos and Marina Ulian <b>Hot-pressing Schedules for Thermomechanical Modification of Wood</b>
14:35	<b>Poster 1:21</b> Bartłomiej Mazela, <u>Waldemar Perdoch</u> , Cyryl Stolpniewski and Magdalena Broda <b>Photostability of Thermally Modified Poplar Wood Superficially Treated with some Protectants</b>
14:38	<b>Poster 1:22</b> <u>Wilfried Beikircher</u> , Joachim Schmid and Massimo Franciacomo <b>COST Action FP1404 Fire Safe Use of Bio-based Building Products</b>
14:41	<b>Poster 1:23</b> <u>Andreja Kutnar</u> <b>Understanding Wood Modification Through an Integrated Scientific and Environmental Impact Approach (COST Action FP1407)</b>
14:45-15:45	<b>Coffee and Poster viewing</b>

### Session Four: Chemical Modification Session Chair: Carmen-Mihaela Popescu

15:45-16:00	<b>Oral 4:1</b> <u>Susanne Bollmus</u> , Ferry Bongers, Antje Gellerich, Chiel Lankveld, John Alexander and Holger Militz <b>Acetylation of German Hardwoods</b>
16:00-16:15	<b>Oral 4:2</b> <u>Mohamed Jebrane</u> <b>Covalent Fixation of Boron in Wood Through Transesterification Reaction with Boron-bearing Vinyl Ester</b>
16:15-16:30	<b>Oral 4:3</b> <u>Guanglu Wu</u> , Darshil U. Shah, Emma-Rose Janeček, Michael Ramage and Oren A. Scherman <b>Predicting the Pore-Filling Ratio in Lumen Impregnation from Weight Percentage Gain and Densities of Wood</b>
16:30-16:45	<b>Oral 4:4</b> <u>Philippe Gérardin</u> , Solafa Salman, Anélie Pétrissans, Marie France Thévenon and Stéphane Dumarçay <b>Combination of Thermal and Chemical Modifications to Improve Durability of Heat Treated Wood Towards European Termites</b>

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16:45-17:00	<b>Oral 4:5</b> <u>Georg Avramidis</u> , Richard Wascher, Holger Militz and Wolfgang Viöl <b>Impact of Air-Plasma Treatment at Atmospheric Pressure on Wood and Wood Extractives</b>
17:00-17:15	<b>Oral 4:6</b> <u>Ferry Bongers</u> , Ronny Bredesen, Christian Lehringer, Bernd Lütke-meier, Chiel Lankveld, John Alexander and Holger Militz <b>Bonding of Acetylated Wood</b>
17:15-17:30	<b>Oral 4:7</b> <u>Chiel Lankveld</u> , John Alexander, Ferry Bongers and Helen Wielders <b>Accoya® and Tricoya® for Use in Innovative Joinery</b>
19:30-	<b>CONFERENCE DINNER</b>

<b>Tuesday 27 October</b>	
08:15-08:30	<b>Arrive at venue</b>
<b>Session Five: Thermal Modification</b> Session Chair: Henrik Heräjärvi	
8:30-8:45	<b>Oral 5:1</b> <u>Michael Altgen</u> and Holger Militz <b>Effect of Temperature and Steam Pressure During the Thermal Modification Process</b>
8:45-9:00	<b>Oral 5:2</b> <u>Wim Willems</u> <b>Glassy Polymer Formation in Thermally Modified Wood: Effects on Long-term Moisture and Durability Performance in Service</b>
9:00-9:15	<b>Oral 5:3</b> <u>Susanna Källbom</u> , Lauri Rautkari, Leena-Sisko Johansson, Magnus Wålinder, Kristoffer Segerholm, Dennis Jones and Kristiina Laine <b>Surface Chemical Analysis and Water Vapour Sorption of Thermally Modified Wood Exposed to Increased Relative Humidity</b>
9:15-9:30	<b>Oral 5:4</b> <u>Kristiina Laine</u> , Kristoffer Segerholm, Magnus Wålinder, Lauri Rautkari, Mark Hughes, Susanna Källbom and Dennis Jones <b>Hardness, Set-recovery and Micromorphology Studies of Densified and Thermally Modified Wood</b>
9:30-9:45	<b>Oral 5:5</b> <u>Anna Sandak</u> , Jakub Sandak, Ignazia Cuccui, Ottaviano Allegretti, Roberto Zanuttini, Francesco Negro, Corrado Cremonini, Laura Rosso and Gaetano Castro <b>Thermal Modification of Poplar Veneers in Vacuum Conditions</b>
9:45-10:00	<b>Oral 5:6</b> <u>Kristoffer Segerholm</u> , Dennis Jones, Lauri Rautkari, Sara Olsson, Graham Ormondroyd, Elie Mansour, Gee-Sian Leung and Wim Willems <b>Evaluation of Differences in Thermal Modification as a Result of Depth Profiling. Preliminary Investigations into Material Treated Using the Firmolin™ Process.</b>
10:00-10:30	<b>Coffee</b>

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<b>Session Six : Evaluation of properties</b> Session Chair: Miha Humar	
10:30-10:45	<b>Oral 6:1</b> <u>Sascha Bicke</u> and Holger Militz <b>Weathering Stability of PF-treated Veneer Products from Beech Wood</b>
10:45-11:00	<b>Oral 6:2</b> <u>Marion Noël</u> , Graham Ormondroyd, Morwenna Spear, Warren Grigsby and Thomas Volkmer <b>Evaluating the Optimisation of Wood Modification with Polybutylene Succinate Bio-polyester</b>
11:00-11:15	<b>Oral 6:3</b> José Ferreira, <u>Bruno Esteves</u> , Lina Nunes and Idalina Domingos <b>Life Cycle Assessment as a Tool to Promote Sustainable Thermowood Boards: a Portuguese Case Study</b>
11:15-11:30	<b>Oral 6:4</b> <u>Vladimirs Biziks</u> , Jan Van den Bulcke, Juris Grīniņš, Holger Militz, Bruno Andersons, Ingeborga Andersone, Jelle Dhaene and Joris Van Acker <b>Study on the Microstructural Changes of Thermo-Hydro Treated Wood Using X-ray Computed Tomography</b>
11:30-11:45	<b>Oral 6:5</b> <u>Olov Karlsson</u> , Carmen Cristescu, Benedikt Neyses and Dick Sandberg <b>Pretreatment of Veneers with Hydrogen Peroxide for Self-Bonded Laminated Boards</b>
11:45-12:00	<b>Oral 6:6</b> Annica Pilgård, <u>Gabriele Ehmcke</u> , Gerald Koch and Klaus Richter <b>Improvement of a Method for Topochemical Investigations of Degraded Furfurylated Wood</b>
12:00-13:15	<b>Lunch</b>
<b>Session Seven: Poster Session 2</b> Session Chair: Joris Van Acker	
13:15	<b>Poster 2:1</b> <u>Nadir Ayrimlis</u> , <u>Jin Heon Kwon</u> and Tae H Han <b>Combined Effect of Acetylation and Wax Emulsion on the Physical and Mechanical Properties of Particleboard</b>
13:18	<b>Poster 2:2</b> Nadine Herold, Tom Franke, Anja Kampe and Alexander Pfriem <b>Impact of Wood Species on Furfuryl Alcohol Modification Studied by DSC</b>
13:21	<b>Poster 2:3</b> Bernd Lütke-meier, Johannes Konnerth and <u>Holger Militz</u> <b>Gluing Melamine Treated Wood – Apparent and Actual Bonding Performance</b>
13:24	<b>Poster 2:4</b> <u>Miklós Bak</u> and Róbert Németh <b>Crack Formation during Oil-Heat-Treatment in Relation with the Initial Moisture Content</b>
13:27	<b>Poster 2:5</b> <u>Lothar Clauder</u> , Elie Mansour, Graham Ormondroyd and Alexander Pfriem <b>Emissions from Bio-based Building Products</b>
13:30	<b>Poster 2:6</b> <u>Meints Tillmann</u> , Christian Hansmann and Wolfgang Gindl-Altmutter <b>Fast PEG-based Oak-wood Treatment for Reduced Swelling Behaviour</b>
13:33	<b>Poster 2:7</b> Jean-Paul Lecomte, <u>Joris Van Acker</u> , Magdalena Kutnik, Jan Van den Bulcke, Mathilde Montibus, Sabrina Salvati and Sarah Derocker <b>Hydrophobation of Timber with Organosilicon Compounds – an Update from the SILEX Life+ Project</b>

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13:36	<b>Poster 2:8</b> <u>Ladislav Reinprecht</u> and <u>Tomáš Grznárik</u> <b>Mould Resistance, Dimensional Stability and Colour Stability of Scots Pine Modified with Organo-silanes Alone, and in Combination with BAC Fungicide and/or Acrylic Paint</b>
13:39	<b>Poster 2:9</b> <u>Vladimirs Biziks</u> , <u>Sascha Bicke</u> and <u>Holger Militz</u> <b>Effect of Phenol-Formaldehyde (PF) Resins Oligomer Size to the Dimensional Stability of Treated Beech Wood</b>
13:42	<b>Poster 2:10</b> <u>Róbert Németh</u> and <u>Miklós Bak</u> <b>Wood-water Relations of Oil-Heat-Treated Poplar Wood</b>
13:45	<b>Poster 2:11</b> <u>Alireza Bastani</u> , <u>Holger Militz</u> and <u>Stergios Adamopoulos</u> <b>Effect of Wood Modification on Water Related Properties and Penetration of adhesives into Scots Pine and Beech</b>
13:48	<b>Poster 2:12</b> <u>René Herrera</u> , <u>Tomasz Krystofiak</u> and <u>Jalel Labidi</u> <b>Accelerated Weathering of Thermally Modified Wood Finishing with Waterborne and UV-curable Coatings</b>
13:51	<b>Poster 2:13</b> <u>Katsuya Mitsui</u> <b>Ammonia Treatment of Light-irradiated Wood</b>
13:54	<b>Poster 2:14</b> <u>Josip Miklečić</u> and <u>Vlatka Jirouš-Rajković</u> <b>Influence of Duration of Ammonia Treatment on Wood Colour Stability to UV Light</b>
13:57	<b>Poster 2:15</b> <u>Georg Behr</u> , <u>Antje Gellerich</u> , <u>Susanne Bollmus</u> and <u>Holger Militz</u> <b>Different Methods of Nitrogen Analysis and their Suitability to Control the Curing Quality of Wood Modification with Melamine Resin</b>
14:00	<b>Poster 2:16</b> <u>Andrzej Fojutowski</u> , <u>Andrzej Noskowiak</u> and <u>Aleksandra Kropacz</u> <b>Field Study in Contact with the Ground of Durability of Thermomodified Scots Pine Sapwood and Poplar Wood and Its Chosen Properties</b>
14:03	<b>Poster 2:17</b> <u>Alexander Pfriem</u> , <u>David Zerbst</u> , <u>Nils Horbelt</u> , <u>Tom Brodhagen</u> , <u>Felix Stegmann</u> , <u>Lukas Brösel</u> , <u>Michael Pockrandt</u> and <u>Nadine Herold</u> <b>Influence of Wood Species on the Melting Behaviour of Waxes Investigated by Differential Scanning Calorimetry</b>
14:06	<b>Poster 2:18</b> <u>Mari Rautiainen</u> <b>Thermochemical Conversion of Pine and Birch in Slow Pyrolysis</b>
14:09	<b>Poster 2:19</b> <u>Jamaludin Malik</u> , <u>Barbara Ozarska</u> , <u>Wahyu Dwianto</u> and <u>Adi Santoso</u> <b>Effect of Impregnation with Polymerized Merbau Extractive on Density and Fixation of Compressed Jabon Wood</b>
14:12	<b>Poster 2:20</b> <u>Veronika Kotradyová</u> , <u>Radovan Tiño</u> , <u>Václav Šprdlík</u> and <u>Barbora Kaliňáková</u> <b>Natural Solid Wood Surfaces and Its Possibilities of Using in Health Care and Therapeutic Facilities</b>
14:15	<b>Poster 2:21</b> <u>Tobias Dietrich</u> , <u>Anja Winkler</u> , <u>Michael Müller</u> and <u>Anne Richter</u> <b>Wood Modification by In Situ Lactic Acid Polymerization with Tin Octoate–Synthesis and Performance</b>
<b>14:20-15:15</b>	<b>Coffee and Poster Viewing</b>

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<b>Session 8: Performance</b> Session Chair: Kristiina Laine	
15:15-15:30	<b>Oral 8:1</b> <u>Miha Humar</u> , Davor Kržišnik, Boštjan Lesar, Aleš Ugovšek, Gregor Rep, Barbara Šubic, Nejc Thaler and Mojca Žlahtič <b>Monitoring of Window, Door, Decking and Façade Elements Made of Thermally Modified Spruce Wood in Use</b>
15:30-15:45	<b>Oral 8:2</b> <u>Christian Brischke</u> , Christian R. Welzbacher and Linda Meyer-Veltrup <b>Performance of Thermally Modified Wood during 14 Years Outdoor Exposure</b>
15:45-16:00	<b>Oral 8:3</b> <u>Andris Morozovs</u> , Laura Laiveniece, Andris Bērziņš, Edgars Bukšāns and Uldis Spulle <b>Several Challenges of Wood Modification</b>
16:00-16:15	<b>Oral 8:4</b> <u>Roger Rowell</u> <b>Correlation Between Equilibrium Moisture Content and Resistance to Decay by Brown-rot Fungi on Acetylated Wood</b>
16:15-16:30	<b>Oral 8:5</b> <u>Magdalena Kutnik</u> and Céline Reynaud <b>The Water Glass Technology: Improving Wood Resistance against Subterranean Termites and Decay Fungi by the Mineralization Process</b>
16:30-16:45	<b>Oral 8:6</b> <u>George Chan</u> and Philip D. Evans <b>Comparison of the Surface Checking of Acetylated Pine and the Tropical Hardwood Ipe Exposed to Accelerated Weathering</b>
16:45-17:00	<b>Oral 8:7</b> <u>Simon Cragg</u> , <u>Claudia Slevin</u> , Mats Westin and Stig Lande <b>Laboratory and Marine Trials of Resistance of Furfurylated Wood to Marine Borers</b>
<b>17:00-17:10</b>	<b>Close of Conference / ECWM9 announcement</b>