

**Programme**

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

<b>Sunday 15 May</b>	
<b>15:30-18:30</b>	<b>Registration</b>
<b>18:30-21:00</b>	<b>Welcome reception</b> at LNEC conference centre

**Monday 16 May**

<i>Auditório</i>	<b>Opening Plenary Session</b> President: Jeff Lloyd Vice-President: Joris Van Acker Secretary-General: Jöran Jermer	
08:30-08:40	<b>Opening Ceremony of the 47th Annual Meeting</b> <b>Opening addresses by</b> Jeff Lloyd, President, The International Research Group on Wood Protection Carlos Pina, President of LNEC Lina Nunes, Local Organizing Committee	
08:40-09:00	<b>Plenary</b> 1. Opening of the meeting 2. Approval of the agenda 3. Membership issues - Ratification of the election of new members since last year's Plenary 4. Announcement of Ron Cockcroft Award recipients 5. Approval of the Annual Report 2015 and Auditors' report 6. Granting discharge for the Executive Council and Secretary-General from the administration and accountancy for 2015	<b>16-60396</b>          <b>16-60395</b>

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Scientific Main Session - keynotes local &amp; COST Actions</b> Chairman: Joris Van Acker	
09:00-09:20	<i>Local keynote</i> <b>Seismic behaviour of timber buildings</b> <u>P Candeias</u> , A Campos Costa	
09:20-09:40	<i>Keynote COST Action FP1303</i> <b>Modelling the performance of bio-based building materials</b> <u>C Brischke</u>	
09:40-10:00	<i>Keynote COST Action FP1407</i> <b>Wood protection and environmental performance of products - impacts COST Action FP1407 aims to bring</b> <u>A Kutnar</u>	
10:20-10:20	<i>Keynote COST Action FP1404</i> <b>Fire retardant treated wood products – Properties and uses</b> B Östman, <u>L Tsantaridis</u>	
10:20-10:30	<b>Questions</b>	
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

<i>Auditório</i>	<b>Scientific Main Session – section papers</b> Co-conveners: Rod Stirling, Miha Humar, Lehong Jin, Tripti Singh, Morten Klamer	
11:00-11:20	<b>Real-Time PCR Assays for the detection of the dry rot fungus <i>Serpula lacrymans</i> and its close relative <i>Serpula himantioides</i></b> <u>K Jacobs</u> , N Rangno	
11:20-11:40	<b>Global survey on durability variation – on the effect of the reference species</b> <u>R Stirling</u> , G Alfredsen, C Brischke, I De Windt, L P Francis, E Frühwald Hansson, M Humar, J Jermer, M Klamer, M Kutnik, P Laks, I Le Bayon, S Metsä-Kortelainen, L Meyer-Veltrup, P I Morris, J Norton, T Singh, J Van Acker, J Van den Bulcke, T M Venås, H Viitanen, A H H Wong	
11:40-12:00	<b>Evaluation of advanced tannin-boron preservative in unsterile soil-bed tests</b> <u>Jinbo Hu</u> , Yiqiang Wu, Shanshan Chang, Guangming Yuan, G Tondi, M-F Thévenon	

## Programme

### The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47) 15-19 May 2016, Lisbon, Portugal

12:00-12:20	<b>Evaluation of Commercially Available Polyurethane Resin to Develop Non-biocidal Wood Preservation Treatments</b> M Mubarak, Y Sudo Hadi, J Suryana, I W Darmawan, F Simon, <u>S Dumarçay</u> , C Gérardin, P Gérardin	16-40751
12:20-12:40	<b>Contamination of recycled wood from selected recycling companies in Europe</b> <u>B Lesar</u> , M Humar, G Hora	16-50322
12:40-13:30	<b>Lunch</b>	

<b>Auditório</b>	<b>Working Party Session WP 1.3. Insect biology and testing</b> Conveners: Mark Mankowski & Teresa de Troya	
13:30-13:50	<b>Evaluating the Effects of Post Dip-Treatment Laser Marking on Resistance to Feeding by Subterranean Termites</b> <u>R A Arango</u> , B Woodward, S Lebow	16-10854
13:50-14:10	<b>Diversity of hindgut symbiotic flagellate protist communities of the European subterranean termite in Portugal</b> <u>S Duarte</u> , T Nobre, M Duarte, P A V Borges, L Nunes	16-10875
14:10-14:30	<b>Above-ground performance of a buffered amine oxide treatment system against <i>Mastotermes darwiniensis</i></b> <u>L J Cookson</u> , R W Clawson Jr	16-10855
<b>Auditório</b>	<b>Working Party Session WP 4.7. Protection by design</b> Convener: Karl-Christian Mahnert	
14:30-14:50	<b>Encapsulation of poles to prevent moisture uptake – a laboratory test</b> <u>K-C Mahnert</u> , U Hundhausen	16-40753
14:50-15:00	<b>Questions</b>	
15:00-15:30	<b>Coffee / Tea</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Working Party Session WP 3.3. Performance - lab &amp; field tests</b> Convener: Kevin Archer	
15:30-15:50	<b>Effect of the Storage Time of Logs in Anti-Stain Treatment Effectiveness</b> <u>M A Peredo</u> , C Barria	<b>16-30683</b>
15:50-16:10	<b>Anti-Fungal Activity on Some Wood extracts as a Wood Protectant</b> <u>Ö Özgenc</u> , S Durmaz	<b>16-30684</b>
16:10-16:30	<b>Laboratory and Field evaluation on Resistance of Thiacloprid-treated Pine Species to Termites in Mexico</b> <u>P Meckler</u> , T Jaetsch, I Rodriguez	<b>16-30687</b>
16:30-16:50	<b>Performance of 3-iodo-2-propynyl butyl carbamate (IPBC) in L-joints under tropical conditions</b> <u>J J Morrell</u>	<b>16-30688</b>
16:50-17:10	<b>Accelerated Weathering Performance of Impregnated Wood Samples Coated with Zinc by Means of Plasma-Assisted Particle Deposition</b> <u>A Can</u> , H Sivrikaya	<b>16-30682</b>
<b>19:00-21:00</b>	<b>President's RECEPTION</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.4. Coatings, hydrophobic treatments and surface aspects</b> Conveners: Mojgan Nejad & Laurence Podgorski	
13:30-13:50	<b>Colorant Treatments to Enhance the Weathering Resistance of Western Redcedar</b> <u>R Stirling</u> , V Landry	<b>16-40737</b>
13:50-14:10	<b>Variation in coating hardness during the EN 927-6 weathering test: influence of pigmentation</b> <u>L Podgorski</u> , L Malassenet, C Reynaud	<b>16-40739</b>
14:10-14:30	<b>Formation of hydrophobic wood surface by means of thermal treatment and surface modification with alkyl ketene dimer (AKD)</b> T Lovaglio, T Meints, L Todaro, W Gindl-Altmatter	<b>16-40738</b>
14:30-14:50	<b>Development of a new method for wood hydrophobizing and fixation of copper compounds by chemical hardening of vegetable based modified oils</b> <u>C Swaboda</u> , M Fischer, K Jacobs	<b>16-40754</b>
14:50-15:00	<b>Questions</b>	
15:00-15:30	<b>Coffee / Tea</b>	

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.4. ctd. Coatings, hydrophobic treatments and surface aspects</b> Conveners: Mojgan Nejad & Laurence Podgorski	
15:30-15:50	<b>Superhydrophobic treatment of Norway spruce wood for improvement of its resistance against brown rot and moulds</b> <u>A Kumar</u> , P Ryparová, P Hajek, B Kričej, M Pavlič, A S Škapin, M Šernek, J Tywoniak, J Žigon, M Petrič	<b>16-40734</b>
15:50-16:10	<b>Improvement of wood properties by impregnation with liquefied spruce bark based resins</b> X Duret, <u>E Fredon</u> , E Masson, P Gérardin	<b>16-40761</b>
16:10-16:30	<b>Modifying wood with paraffin wax emulsion impregnation and thermal modification: hydrophobization effect and mechanism of the combined treatment</b> <u>Wang Wang</u> , Jinzhen Cao, Cong Chen	<b>16-40726</b>

**Programme**

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

16:30-16:50	<b>Development of methodologies to evaluate tanning blocking coatings</b> <u>C Reynaud</u> , L Podgorski	<b>16-40760</b>
16:50-17:10	<b>Assessment of the biological durability of wood treated with organosilicon compounds</b> <u>M Kutnik</u> , M Montibus, S Derocker, S Salivati, J-P Lecomte	<b>16-30685</b>
<b>19:00-21:00</b>	<b>President's RECEPTION</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

### Tuesday 17 May

<i>Auditório</i>	<b>Working Party Session WP 2.1. Prediction of service life &amp;            COST Action FP1303 Special session</b> Conveners: Linda Meyer-Veltrup & Dennis Jones	
08:30-08:50	<b>CCA Treated Wood, Will It Last 100 Years?</b> <u>T Singh</u> , D Page	16-20575
08:50-09:10	<b>Performance of copper treated poles and posts after three to fifteen years of exposure</b> <u>M Humar</u> , N Thaler	16-20595
09:10-09:30	<b>Estimation of wood degradation determined by visual inspection, mechanical testing and DNA characterisation – report after 3 years of exposure</b> <u>N Thaler</u> , T Martinović, M Bajc, D Finžgar, H Kraigher, A Sinha, J J Morrell, M Humar	16-30700
09:30-09:50	<b>Hygrothermal performance of ventilated wooden cladding</b> K Nore, <u>U Hundhausen</u>	16-40733
09:50-10:10	<b>On the effect of climate and exposure conditions on durability indicators and their potential for service life prediction of wood-based products</b> <u>G Alfredsen</u> , C Brischke, P-O Flæte, M Humar, L Meyer-Veltrup	16-20576
10:10-10:30	<b>Development of decay hazard maps based on decay prediction models</b> <u>J Niklewski</u> , E Frühwald Hansson, C Brischke, D Kavurmaci	16-20588
10:30-11:00	Coffee / Tea	

## Programme

### The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47) 15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Working Party Session WP 2.1. Prediction of service life &amp; COST Action FP1303 Special session ctd.</b> Conveners: Linda Meyer-Veltrup & Dennis Jones	
11:00-11:20	<b>Engineering for Rural and Civil Development. Uni Performance of wood exterior structures above ground contact in Spain built with softwood species. The situation of cases in northern Spain</b> <u>D Lorenzo</u> , J Fernández-Golfín, M Touza	16-20597
11:20-11:40	<b>Evaluation of field test data</b> <u>F Bongers</u> , C Brischke, J Van den Bulcke, W Gard, I De Windt, H Militz	16-20594
11:40-12:00	<b>Weather degradation of thin wood samples</b> <u>I Burud</u> , K A Smeland, K Hovde Liland, T K Thiis, J Sandak, A Sandak, L Ross Gobakken	16-20578
12:00-12:20	<b>Foundation piles: analysis of beech wood decay in service life conditions</b> <u>Q Kleindienst</u> , A Besserer, M-L Antoine, C Perrin, J-F Bocquet, L Bléron	16-10858
12:20-12:40	<b>Moisture induced risk and fungal development in various field test set-ups in and above ground</b> <u>L Meyer-Veltrup</u> , C Brischke	16-20577
<b>12:40-13:30</b>	<b>Lunch</b>	

<i>Auditório</i>	<b>Working Party Session WP 5.2. Sustainability &amp; COST Action FP 1407 Special Session</b> Conveners: Morten Klamer & Andreja Kutnar	
13:30-13:50	<b>Lignin-Based Adhesive for Engineered Wood Products</b> I Kalami, M Arefmanesh, E Master, <u>M Nejad</u>	16-50319
13:50-14:10	<b>Environmentally Sustainable Method of Termite Management using a baiting system: A case study in the Philippines</b> <u>P Dhang</u>	16-50317
14:10-14:30	<b>Depictions on Wood: Acceptation and Internalization of Wood, which is an intercultural interaction tool, as "A Valuable Object" (Wood is Life)</b> <u>I Usta</u>	16-40719



## Programme

### The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47) 15-19 May 2016, Lisbon, Portugal

14:30-14:50	Depictions on Wood: Acceptation and Internalization of Wood, which is an intercultural interaction tool, as "A Valuable Object" (WoodLover Approach) <u>I Usta</u>	16-40720
14:50-15:00	Questions	
15:00-15:30	Coffee / Tea	

<b>Auditório</b>	<b>Working Party Session WP 3.4 Fire retardants &amp; WP 4.6 Fire protection &amp; COST Action FP1404 Special Session</b> Convener: Ulrich Hundhausen	
15:30-15:50	<b>Performance of a new water-based fire retardant in wood-based panels</b> <u>D Jones</u> , M Lawther, A C Steenkjær Hastrup, P Fynholm, P Fællid, D Penalzoa	16-30697
15:50-16:10	<b>Combustion and thermal characteristics of Korean wood species</b> Huyun Jeong Seo, Jung-eun Park, <u>Dong Won Son</u> , Won-Joung Hwang	16-40727
<b>Auditório</b>	<b>Working Party Session WP 1.4. Natural durability</b> Conveners: Marie-France Thévenon & Nadine Amusant	
16:10-16:30	<b>Wood Natural durability study source of biomolecules: case of <i>Dicorynia guianensis</i> Amsh. heartwood</b> J-B Say Anouhe, A A Adima, F B Niamké, D Stien, B Kassi Amian, D Virieux, J-L Pirate, S Kati-Coulibaly, <u>N Amusant</u>	16-10871
16:30-16:50	<b>GC-MS Characterizations of Termiticidal Heartwood Extractives from Wood Species Utilized in Pakistan</b> <u>M Mankowski</u> , B Boyd, B Hassan, G T Kirker	16-10857
16:50-17:10	<b>Antitermitic activities of Shisham (<i>Dalbergia sissoo</i> Roxb.) heartwood extractives against two termite spec.</b> <u>B Hassan</u> , M Mankowski, G Kirker, S Ahmed, M Misbah ul Haq	16-10856
17:10-17:30	<b>Laboratory evaluations of woods from Pakistan and their extractives against <i>Postia placenta</i> and <i>Trametes versicolor</i></b> <u>M Mankowski</u> , B Hassan, A Bishell, G Kirker	16-10860
	<b>Durability to decay organisms of <i>Pinus nigra</i> subsp. <i>laricio</i> var. <i>corsicana</i>. Influence of the moon phase</b> <u>M T Troya</u> , M Conde, M J Barriola, F Llinares, V Dorronsoro	16-10869

## Programme

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

<i>Auditório</i>	<b>Poster Session</b> Convener: Joris Van Acker	
<b>17:30-18:30</b>	<b>POSTER SESSION (IRG/WP 16-60397)</b>	
	<b>State of the art of industrial wood protection in Portugal</b> L Nunes, J Carmo, J Vicente, B Esteves	<b>16-30703</b>
	<b>Situation and perspectives of wood preservation industry in Uruguay</b> C Ibáñez, V Morales, C Mantero, V Benitez, C Perdomo, J Dellepiane, M Rabinovich	
	<b>New approach to improve the estimation of colony population in subterranean termites (Blattodea: Rhinotermitidae)</b> E Alcaide, R Molero, J Diz, M Gaju	<b>16-10866</b>
	<b>Evaluation of the effects of different concentrations of Fipronil against Reticulitermes grassei (Blattodea: Rhinotermitidae)</b> J R Carbonero-Pacheco, R Molero, M E Alcaide, J Diz, M Gaju	<b>16-30702</b>
	<b>Bundle tests – Simple alternatives to standard above ground field test methods</b> C Brischke, L Meyer-Veltrup	<b>16-20581</b>
	<b>Moisture monitoring in WW2 partisan hospital Franja</b> M Humar, N Thaler, B Lesar, A Žagar	<b>16-20596</b>
	<b>Preparation of highly wear-resistance superhydrophobic wood for the prevention of water/humidity attack</b> Shanshan Jia, Yingfeng Zuo, Zhiping Wu, Shengfei Yu, Yiqiang Wu, Ming Liu, Yan Qing	<b>16-40746</b>
	<b>The effect of acetylation on physical properties of beech (<i>Fagus orientalis</i>) and Alder (<i>Alnus subcordata</i>) wood</b> M Akhtari, M Arefkhani	<b>16-40759</b>
	<b>Effect of different concentration of furfurylation on physical properties and decay resistance of Paulownia wood</b> M Ghorbani, H Asghari	<b>16-40762</b>
	<b>Development of Wood Modification – High melting point wax and hot oil treatments</b> H Turunen, L Linkosalmi, J Peura, O Paaajanen	<b>16-40768</b>

## Programme

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

	<b>Efficacy of lignocellulosic materials for Removal of Cation and Anions from Industrial and Urban Wastewater</b> M Akhtari, M Ghorbani Kohkandeh, H Borazjani	<b>16-50321</b>
	<b>Quality determination of <i>Aureobasidium</i> cells in fermentation liquid of wood protective biofinish</b> S Rensink, M Sailer	
	<b>Heartwood variation with tree height in <i>Quercus cerris</i></b> S Knapic, R Pimenta, T Pinto, A Bajraktari, L Nunes, H Pereira	
	<b>Microwave-Assisted Direct Synthesis of Boronated Alkanol Amine Succinic Anhydride Esters As Potential Surfactants for Various Applications Particularly For Treating Wood</b> A K Chattopadhyay	
	<b>Utilization and modification of the Istrska belica olive as a wood preservation treatment</b> M Schwarzkopf, M Burnard, A Kutnar	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 3.2. Organic preservatives</b> Convener: Hans Leithoff	
08:30-08:50	<b>Fungistatic activity of quinolizidine and bisquinolizidine alkaloids against <i>A. niger</i></b> <u>P W Kwaśniewska-Sip</u> , G Cofta, B Mazela, L Ross Gobakken, A K Przybył	16-30699
08:50-09:10	<b>Decay resistance of wood treated with bio-friendly preservative systems</b> B Mazela, G Cofta, <u>W Perdoch</u> , L Ross Gobakken, P Kwaśniewska-Sip	16-30698
09:10-09:30	<b>Effects of Bio-oil Obtained from Laurel (<i>Laurus nobilis</i>) Residues on Biological, Physical, and Mechanical Properties of Treated Wood</b> <u>S Akbas</u> , A Temiz, N Terziev, M H Alma, S Palanti, E Feci	16-30692
09:30-09:50	<b>Fungicidal Effect of Tobacco Stalks (<i>Nicotiana tabacum</i> L.) Against Brown Rot Fungi "<i>Coniophora puteana</i>"</b> Ü C Yıldız, S Yıldız, A Yılmaz, <u>S Durmaz</u>	16-10865
09:50-10:10	<b>Termiticidal Effect of Bitumen and Creosote oil Treatments on Selected Nigerian Wood Species</b> J M Owoyemi, A O Adiji, J T Aladejana, O E Olawale, O D Oladapo	16-30689
10:10-10:30	<b>A non-VOC approach of solvent-based wood preservatives for remedial treatment</b> <u>M Pallaske</u> , S Hellkamp, P Jüngel	16-30681
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

<i>Pequeno Auditório</i>	<b>Working Party Session WP 3.2. ctd. Organic preservatives</b> Convener: Hans Leithoff	
11:00-11:20	<b>New perspectives for wood protection: enzyme-based treatments</b> <u>C Fernández-Costas</u> , S Palanti, M Á Sanromán, D Moldes	16-40742
11:20-11:40	<b>Wood properties modification by an enzymatic assisted treatment with phenolic extractives</b> <u>D Filgueira</u> , C Fernández-Costas, D E García, D Moldes	16-30696

## Programme

### The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47) 15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 3.1. Inorganic preservatives</b> Convener: Marko Petrič	
11:40-12:00	<b>Evidence for a role for precipitated copper on the chemistry of micronized copper treatments</b> Wei Xue, P Kennepohl, <u>J N R Ruddick</u>	16-30690
12:00-12:20	<b>The termite resistance of wood impregnated with nano-zinc oxide and nano-zinc borate dispersions</b> C Lykidis, T de Troya, M Conde, <u>J Galván</u> , G Mantanis	16-30691
12:20-12:40	<b>Effects of fungal exposure on air and liquid permeability of nanosilver- and nanozinc-impregnated Paulownia wood</b> H R Taghiyari, A Kalantari, <u>M Ghorbani Kookandeh</u> , F Bavaneghi, M Akhtari	16-30680
<b>12:40-13:30</b>	<b>Lunch</b>	
<i>Pequeno Auditório</i>	<b>Working Party Session WP 1.6. Cultural artefact protection</b> Convener: Dong Won Son	
13:30-13:50	<b>Fungal decay of archaeological waterlogged oak timber: role of the mineral content</b> <u>A Besserer</u> , M Letellier, E Fredon, Q Kleindienst, M-L Antoine, C Perrin, J Lallemand, C Rose, M-C Trouy	16-10873
13:50-14:10	<b>Cultural heritage – research into innovative solutions and methods for historic wood conservation</b> <u>M Broda</u> , B Mazela	16-10874
14:10-14:30	<b><i>Cryptotermes brevis</i> - a silent earthquake for the wood structures in a World Heritage city in the Azores Isl.</b> <u>O Guerreiro</u> , P A V Borges, L Nunes	16-50316
14:30-14:40	<b>Questions</b>	
<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.1. Chemical wood modification</b> Conveners: Mats Westin & Katrin Zimmer	
14:40-15:00	<b>Enhancing wood properties through bio-based and non-biocidal co-polyesters</b> <u>C L'Hostis</u> , M-F Thévenon, E Fredon, P Gérardin	16-40740
<b>15:00-15:30</b>	<b>Coffee / Tea</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.1. ctd. Chemical wood modification</b> Conveners: Mats Westin & Katrin Zimmer	
15:30-15:50	<b>The impact of catalyst on the properties of furfurylated beech wood</b> P S Sejati, A Imbert, <u>C Gérardin</u> , S Dumarçay, E Fredon, E Masson, D Nandika, T Priadi, P Gérardin	<b>16-40748</b>
15:50-16:10	<b>Marine Borer Resistance of Acetylated and Furfurylated Wood – Results from up to 16 years of Field Exposure</b> <u>M Westin</u> , P Larsson Brelid, T Nilsson, A O Rapp, J P Dickerson, S Lande, S Cragg	<b>16-40756</b>
16:10-16:30	<b>Optimising wood chemical modification with lactic acid oligomers by screening of processing conditions and chemical additives</b> <u>C Grosse</u> , M-F Thévenon, M Noël, P Gérardin	<b>16-40741</b>
16:30-16:50	<b>Accelerated weathering and fungal resistance of wood modified with isopropenyl acetate</b> <u>G B Nagarajappa</u> , K K Pandey	<b>16-40764</b>

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

### Wednesday 18 May

<i>Auditório</i>	<b>Working Party Session WP 2.3. Chemical/physical analysis</b> Conveners: Bruce Breedt & Anna Sandak	
08:30-08:50	<b>Expert versus multi-sensor evaluation of wood samples after short term weathering</b> <u>A Sandak</u> , J Sandak, I Burud, L Ross Gobakken, M Noël	<b>16-20587</b>
08:50-09:10	<b>Measurement of Cell Wall Moisture in Acetylated Radiata Pine Using Low-Field Nuclear Magnetic Resonance</b> <u>H G Beck</u> , C A S Hill	<b>16-20583</b>
09:10-09:30	<b>Distribution and penetration of the tung oil in wood studied by high-resolution magnetic resonance imaging</b> <u>M Žlahtič</u> , U Mikac, I Serša, M Merela, M Humar	<b>16-20593</b>
09:30-09:50	<b>Screening of fastener resistance in contact with untreated wood using different test designs</b> <u>E Melcher</u> , S Wolf, U Cera	<b>16-30686</b>
09:50-10:10	<b>Preparation of Calibration Standards for the Analysis of Pentachlorophenol in Treated Wood by X-ray Fluorescence</b> L L Ingram Jr, H M Barnes, R Shmulsky, <u>D Jeremic</u>	<b>16-20591</b>
10:10-10:30	<b>Insight in moisture dynamics of wood treated with organosilicon compounds</b> <u>J Van Acker</u> , J Van den Bulcke, I De Windt, S Colpaert, S De Rocker, S Salvati, J-P Lecomte	<b>16-20598</b>
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Working Party Session WP 2.2. Microbial test methodology</b> Conveners: Eric Gelhaye & Susanne Bollmus	
11:00-11:20	<b>Selection of most aggressive test fungi for modified wood – Practical laboratory experience</b> <u>A Gellerich</u> , S Bollmus	<b>16-20579</b>
11:20-11:40	<b>Variation in moisture content in field trials according to use class 3.2 conditions</b> <u>S Bollmus</u> , A Gellerich, H Militz	<b>16-20580</b>
11:40-12:00	<b>Transfer of microorganisms from wooden crates to foodstuffs: assessment of a transfer threshold</b> <u>M Montibus</u> , R Ismail, I Le Bayon, A Jasick, M Gabille, F Aviat, V Michel, M Federighi, M Kutnik	<b>16-20574</b>
12:00-12:20	<b>Studying fungal growth using automated image analysis and computer simulations</b> <u>G Vidal-Diez de Ulzurrun</u> , J M Baetens, J Van den Bulcke, B De Baets	<b>16-20590</b>
12:20-12:40	<b>Questions</b>	
<b>12:40-13:15</b>	<b>Lunch</b>	

	<b>Excursion</b>	
13:30-22:00	"Sintra", "Quinta da Regaleira" and dinner in "Companhia das Lezirias"	



## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.3. Treating processes &amp; treatability of timber</b> Conveners: Andreas Treu & Julien Trompetter	
08:30-08:50	<b>A Treatability Study of Western Wood Species with Water Based Azoles and Insecticides Using Buffered Amine Oxides</b> <u>R W Clawson Jr</u> , C N Cheeks, K A Cutler	<b>16-40766</b>
08:50-09:10	<b>Influence of pressure phase impregnation time on the uptake and distribution of wood preservatives in Scots pine material of diverse treatability</b> <u>K Zimmer</u> , B Kerfrieden	<b>16-40752</b>
09:10-09:30	<b>Impregnation of railway sleepers - Pressure gradient and transversal penetration</b> <u>M Starck</u> , A Gellerich, H Militz	<b>16-40731</b>
09:30-09:50	<b>Effect of Presteam Densification on Leachability and Dimensional Stability of Nanocopper Impregnated Poplar</b> <u>G Rassam</u> , A Talaei, A Ahmadi	<b>16-40723</b>
09:50-10:10	<b>Investigation of enzymatic effect on pit membranes by light and scanning electron microscopy</b> <u>S Durmaz</u> , Ü C Yildiz, M Öztürk, B Serdar	<b>16-40721</b>
10:10-10:30	<b>A Comparison on Penetration of Silica Sol in Scots pine and Southern pine wood</b> Mingyang Sun, <u>Jinzhen Cao</u>	<b>16-40722</b>
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

## Programme

### The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47) 15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 1.1. Soft rot, bacteria, bluestain and moulds</b> Conveners: Elke van Nieuwenhuijzen & Ingunn Burud	
11:00-11:20	<b>Susceptibility of wood substrates to <i>Aurebasidium pullulans</i> at different temperatures</b> <u>L Ross Gobakken</u> , G Alfredsen	<b>16-10863</b>
11:20-11:40	<b>Identification of the key factors influencing development of the blue stain fungi</b> <u>D Kržišnik</u> , B Lesar, N Thaler, M Humar	<b>16-10872</b>
11:40-12:00	<b>Simulation of surface climate and mould growth on wooden façades</b> <u>T K Thiis</u> , I Burud, D Kraniotis, L Ross Gobakken	<b>16-20585</b>
12:00-12:20	<b>Formation of biofinishes on outdoor exposed wood; the impact of wood-oil combination and geographical location. Influence factors of outdoor biofinish formation on oil treated wood</b> <u>E J van Nieuwenhuijzen</u> , L Ross Gobakken, M F Sailer, R A Samson, O C G Adan	<b>16-10864</b>
12:20-12:40	<b>Dynamics of biofilm formation on wood impregnated with vegetable oils</b> <u>K Filippovych</u> , H Huinink, L van der Ven, O C G Adan	<b>16-40769</b>
<b>12:40-13:15</b>	<b>Lunch</b>	
	<b>Excursion</b>	
13:15-22:00	"Sintra", "Quinta da Regaleira" and dinner in "Companhia das Lezirias"	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Sala 2</i>	<b>Working Party Session WP 4.5. Thermal wood modification</b> Convener: Philippe Gérardin	
08:30-08:50	<b>Characterization of waste from <i>Pinus radiata</i> generated during industrial thermal-treatment</b> R Herrera, D Thomas da Silva, R Llano-Ponte, J Labidi	16-20586
08:50-09:10	<b>How intraspecific radial variability of the European Oak's may influence mild pyrolysis process and durability of the material?</b> J Hamada, A Pétrissans, F Mothe, M Pétrissans, P Gérardin	16-40725
09:10-09:30	<b>Resistance of heat treated Ash wood under steam pressure: rot fungi, soil micro-organisms and termites</b> K Candelier, S Hannouz, M-F Thévenon, D Guibal, P Gérardin, M Pétrissans, R Collet	16-40724
09:30-09:50	<b>Durability of Thermally Modified Engineered Wood Products</b> H M Barnes, M D Aro, A Rowlen	16-40745
09:50-10:10	<b>Exterior birch plywood: potentiality of the thermo-hydro treatment</b> B Andersons, I Andersone, A Meija-Feldmane, I Irbe, A Janberga, J Grinins	16-40743
10:10-10:30	<b>The durability of natural and thermomodified black poplar wood and Scots pine sapwood after two years of external exposition</b> A Fojutowski, A Kropacz, A Noskowiak	16-40730
10:30-11:00	Coffee / Tea	

<i>Sala 2</i>	<b>Working Party Session WP 4.5. ctd. Thermal wood modification</b> Convener: Philippe Gérardin	
11:00-11:20	<b>The influence of log soaking temperature and thermal modification on the properties of birch veneers</b> S Källbom, K Laine, M S Moghaddam, A Rohumaa, K Segerholm, M Wålinder	16-40749
11:20-11:40	<b>Chemical, physical-mechanical characterization and durability of thermally modified beech and ash wood by thermo-vacuum process (Termovuoto)</b> M Jebrane, I Cuccui, O Allegretti, N Terziev	16-40758

## Programme

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

11:40-12:00	<b>What makes cellulose auxetic?</b> <u>A Asamoah</u> , S Eichhorn, K Evans	<b>16-40767</b>
12:00-12:20	<b>Dynamic mechanical analysis of viscoelastic properties of heat treated glycerol-impregnation poplar wood</b> <u>Li Yan</u>	<b>16-40732</b>
12:20-12:40	<b>Effect of insitu polymerization on practical properties of heat treated wood</b> <u>M Ghorbani</u> , M Mohseni Shaktaei	<b>16-40763</b>
<b>12:40-13:15</b>	<b>Lunch</b>	

<b>Excursion</b>		
13:15-22:00	"Sintra", "Quinta da Regaleira" and dinner in "Companhia das Lezirias"	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

### Thursday 19 May

<i>Auditório</i>	<b>Working Party Session WP 1.2. Basidiomycetes</b> Convener: Claudia Ibáñez	
08:30-08:50	<b>Role of cell wall specific moisture content on the brown-rot fungal attack on wood</b> <u>R M Rowell</u>	<b>16-40736</b>
08:50-09:10	<b>The copper-transporting ATPase pump and its potential role in copper-tolerance</b> <u>K M Ohno</u> , C A Clausen, F Green III, G Stanosz	<b>16-10859</b>
09:10-09:30	<b>Production of reactive oxygen species in the presence of oxidized iron and oxalate under conditions mimicking brown-rot fungal degradation of wood</b> <u>Yuan Zhu</u> , Liangpeng Zhuang, B Goodell, Jinzhen Cao, J Mahaney	<b>16-10861</b>
09:30-09:50	<b>Molecular Pathways in the Brown Rot Fungus <i>Gloeophyllum trabeum</i> in Oxalate Production</b> Liangpeng Zhuang, Weihua Guo, M Yoshidac, Xueyang Feng, <u>B Goodell</u>	<b>16-10870</b>
09:50-10:10	<b>Exudate production: a detoxification strategy of wood decaying fungi</b> A Deroy, J G Berrin, S Dumarçay, P Gérardin, A Kohler, D Navarro, C Rose, R Sormani, M Morel-Rouhier, <u>E Gelhaye</u>	<b>16-10868</b>
10:10-10:30	<b>Questions</b>	
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Working Party Session WP 5.1. Environment</b> Convener: Thomas Venås	
11:00-11:20	<b>Creosote leaching from timber bridges in Norway – a practical classification approach</b> A Treu, K Zimmer	<b>16-40744</b>
11:20-11:40	<b>Life cycle assessment of creosote treated wood and tall oil treated wood with focus on end-of-life</b> L G F Tellnes, <u>U Hundhausen</u>	<b>16-50320</b>
11:40-12:00	<b>Bacterial Degradation of Pentachlorophenol Indicated in Groundwater Undergoing Long Term In-Situ Remediation</b> <u>C E Stokes</u> , H Borazjani, L Prewitt	<b>16-50318</b>
12:00-12:20	<b>Release of Copper from Pressure Treated Wood</b> <u>Jun Zhang</u> , J Horton	<b>16-20584</b>
12:20-12:40	<b>Decontamination of sludges, liquids and soils polluted by “class 1,2 &amp; 3a” and “temporary” wood treatment products from dipping tanks</b> <u>A Zaremski</u> , E Wozniak, S Maman, C Zaremski, S Morel	<b>16-50315</b>
<b>12:40-13:30</b>	<b>Lunch</b>	

## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.2. Wood composites, WPCs and Engineered wood products</b> Conveners: Ghonche Rassam & Jinzhen Cao	
08:30-08:50	<b>Effect of Nano-Silane on Permeability in MDF as a Result of Susceptibility to Moulds and Fungi</b> H R Taghiyari, <u>J Norton</u> , A Moradiyan, M Sadegh Taher Tolou Del, H Siahposht, B Moradi-Malek, M Noferesti	<b>16-40716</b>
08:50-09:10	<b>Increasing the hardness of wood-composite panels by nanosilver</b> H R Taghiyari, <u>J Norton</u> , K Heidarhaee	<b>16-40715</b>
09:10-09:30	<b>Decay resistance of beech wood and plywood treated with different type of phenol-formaldehyde (PF) resins</b> V Biziks, S Bicke, <u>H Militz</u>	<b>16-40717</b>
09:30-09:50	<b>Durability of a willow/plastic composite mat</b> <u>Li Yan</u> , Haiyan Duan, Beizhan Quan, J Cappellazzi, J J Morrell	<b>16-20592</b>
09:50-10:10	<b>Fungal resistance and accelerated weathering of Wood-Plastic composites reinforced with Maritime pine wood flour</b> M Jebrane, T Fournier, N-E El Bounia, <u>F Charrier-El Bouhtoury</u>	<b>16-40750</b>
10:10-10:30	<b>Properties of Wood Plastic Composites Made of Recycled HDPE and Remediated Wood Flour from CCA/CCB Treated Wood Removed from Service</b> E D Gezer, <u>S Akbaş</u> , M Tufan, A Temiz	<b>16-40747</b>
<b>10:30-11:00</b>	<b>Coffee / Tea</b>	

## Programme

**The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal**

<i>Pequeno Auditório</i>	<b>Working Party Session WP 4.2. ctd. Wood composites, WPCs and Engineered wood products</b>	
	Conveners: Ghonche Rassam & Jinzhen Cao	
11:00-11:20	<b>Incorporation of raw boron minerals to protect particleboard against decay and mold fungi, termites and insects</b>  <u>S N Kartal</u> , E Terzi, P Gérardin, C M Ibanez, T Yoshimura	<b>16-40729</b>
11:20-11:40	<b>Fabrication and characterization of MicroPCMs filled wood-plastic composites: Effects of polyethylene glycol on melamine-formaldehyde shell material</b>  <u>Xi Guo</u> , Jinzhen Cao	<b>16-40728</b>
11:40-12:40	<b>Questions...</b>	
<b>12:40-13:30</b>	<b>Lunch</b>	



## Programme

The 47<sup>th</sup> Annual meeting of the International Research Group on Wood Protection (IRG47)  
15-19 May 2016, Lisbon, Portugal

<i>Auditório</i>	<b>Scientific Plenary Session</b> Session Chair: Joris Van Acker	
	<b>DISCUSSION FORUM</b>	
	<b>Strategies related to CLT and other structural building materials</b> <i>Monitored by Joris Van Acker</i>	
13:30-15:00	<b>An Open Letter to Proponents of CLT/Massive Timber</b> A Taylor, <u>J Lloyd</u> , T Shelton	<b>16-40755</b>
	<b>The durability of manufactured structural building materials</b> <u>T Singh</u> , D Page	<b>16-40718</b>
<b>15:00-15:30</b>	<b>Coffee / Tea</b>	
<i>Auditório</i>	<b>Final Plenary Session</b> President: Jeff Lloyd Vice-President: Joris Van Acker Secretary-General: Jöran Jermer	
	<b>Plenary</b>	
15:30-16:30	7. Approval of membership fees for 2017 8. Approval of the budgets for 2016 (forecast May 2016) and 2017 9. Election of new officers Vice-president Executive Council (2 vacancies) Information on EC appointments to other committees 10. IRG Secretariat and Secretary-General 11. Appointment of auditors 12. Future venues IRG 48: Ghent, Belgium 4-8 June 2017; IRG 49; IRG 50 13. Any other business	<b>16-60399</b> <b>16-60400</b>
<b>19:30-23:00</b>	<b>CONFERENCE BANQUET</b>	