

## Conference Program

### COST Action FP1407 Final Conference: “Living with modified wood”

**Wednesday, December 12<sup>th</sup>, 2018**

- 9:00 - 9:30 Registration
- 9:30 - 9:40 Welcome to University of Belgrade – Faculty of Forestry:  
**Goran Milić & Ratko Ristić, dean**
- 9:40 - 9:45 Welcome from COST Action FP1407 Chair: **Andreja Kutnar**
- 9:45 - 10:15 Keynote lecture: “Shift Your Thinking for Research Innovation”, **Eric Hansen**

10:15 - 11:15	<b>Session 1: Modified wood in use</b>	
		<b>Chairs:</b> E. Kegel, T. Palija
	Human interaction with wood – what to measure, how to measure?	<b>A. Sandak</b> , J. Sandak, A. Landowska, V. Kotradyová
	Can modified wood compete with untreated wood in preference of people?	<b>D. Lipovac</b> , M. Burnard, A. Kutnar, A. Sandak
	EcoModules - an on-line Eco-design Tool	<b>T. Rätty</b> , M. Laajalahti, M. Saarinen, K. Usva
	Online tool for generating Environmental Product Declarations (EPD-tool) for modified wood products	<b>L. Tellnes</b> , O. Iversen

11:15 - 11:45 **Coffee break**

11:45 - 13:00	<b>Session 2: Novel modification technologies</b>	
		<b>Chairs:</b> G. Mantanis, A. Sandak
	Review: wood modification techniques based on cell wall bulking with non-toxic chemical reagents	<b>K. Peeters</b> , E. Fredon, P. Gérardin, C. Grosse, C.A.S. Hill, C. L’Hostis, M. Humar, D. Jones, E. Larnøy, M. Noël, A. Sandak
	The potential application of Maillard-type reactions during thermal modification treatment	<b>D. Jones</b> , D. Kržišnik, M. Humar, L. Nunes, S. Duarte, C-M. Popescu
	Effect of polymerization temperature during $\epsilon$ -caprolactone modification on wood properties	M.A. Ermeydan, O. Gonultas, <b>M. Yildirim</b> , Z. Candan
	Wood sawdust and alkali activated slag bio-composite	<b>D. Vaičiukynienė</b> , A. Kielė, R. Bistrickaitė, G. Tamošaitis
	Wood protection from the olive industry	<b>M. Schwarzkopf</b> , M. Burnard

13:00 - 14:15 **Lunch**

14:15 - 15:45	<b>Session 3: Projections and monitoring of modified wood</b>	
	<b>Chairs:</b> C.Ganne-Chédeville, L.Tellnes	
	Projection of the effects of climate change on decay risk of external timber: United Kingdom case study	<b>S. Curling,</b> G. Ormondroyd
	State of the art of wood modification in Spain. Researches, industrial treatments and examples of end uses in real cases	<b>D. Lorenzo,</b> A. Lozano, J. Benito, M. Touza, J. Fernández-Golfín, R. Herrera
	Monitoring of the performance of thermally modified wood in buildings	<b>M. Humar,</b> B. Lesar, D. Kržišnik
	Durability of modified wood and bio-based materials under outdoor conditions	<b>H. Kallakas,</b> K. Visnapuu, T. Poltimäe, J. Kers, A. Sandak
	Furfurylated wood durability in a cyclic hydrothermal environment	<b>A. Morozovs,</b> A. Keke, L. Fišere, U. Spulle
	Termite and decay resistances of bioplast-spruce green wood plastic composites	<b>K. Candelier,</b> A. Atli, J. Alteyrac

15:45 - 16:15 **Coffee break**

16:15 - 17:30	<b>Session 4: Beyond wood modifications</b>	
	<b>Chairs:</b> A. Dias, M. Petrič	
	Wastewater remediation with formaldehyde free tannin-furanic foam powders	T. Sepperer, J. Eckardt, J. Neubauer, <b>G. Tondi</b>
	The application of water pretreatment in the pellet production process	J. Popović, <b>M. Popović,</b> M. Điporović-Momčilović, A. Prahin, V. Dodevski, I. Gavrilović-Grmuša
	Charring of Norway spruce wood surface as a surface modification technique	<b>J. Žigon,</b> M. Pavlič, M. Petrič
	Wood modification related researches at the University of Sopron	<b>R. Németh,</b> M. Bak, J. Ábrahám, F. Fodor, N. Horváth, M. Báder
	Networking in European wood research	<b>P. Rademacher</b>

17:30 **Closing of the first day**

17:30 - 18:00 **Core group meeting**

18:30 - 20:00 **Sightseeing**

20:00 **Conference dinner**

**Thursday, December 13<sup>th</sup>, 2018**

9:00 - 10:20	<b>STSM Session</b>	
		<b>Chairs:</b> L. Rautkari, A. Kutnar
	Engineered wood products in contemporary architecture	<b>M. Kitek Kuzman</b> , D. Sandberg
	Effect on silane treatment on mechanical properties of degraded wood	<b>M. Broda</b> , M.J. Spear, S.F. Curling
	The impact of temperature increasing rate during thermal modification on wood surface-coating interaction	<b>T. Palija</b> , G. Milić, T. Schabel, D. Djikanović
	Cutting forces assessment when machining wood over all grain orientations – example of thermally modified poplar	<b>R. Curti</b> , B. Marcon, A. Scippa, M. Fioravanti, G. Campatelli, L. Denaud, G. Goli
	Experimental and numerical analysis of fracture toughness of thermally modified beech in mode II	<b>V. Sebera</b> , M. Redon, M. Brabec, D. Děcký, P. Čermák, J. Milch, J. Tippner
	Mechanosorptive creep tests on thermally modified wood	<b>C.F. P. Nzienguí</b> , G. Goli, R.M. Pitti, E. Fournely, J. Gril
	Characterisation of subfossil oak wood from central Serbia using SEM and FTIR spectroscopy	<b>M. Veizović</b> , A. Straže, N. Todorović, K. Čufar, M. Merela, G. Milić
	Generalised thermal modification kinetic model of poplar wood under different technologies	<b>B. Marcon</b> , L. Procino, G. Goli
	Properties of multi-layer plywood made from combinations of densified and non-densified veneers in one structure	<b>E.A. Salca</b> , P. Bekhta
	Decay and insect resistance of modified wood with epoxidized plant oils	G.K. Demirel, <b>A. Temiz</b> , S. Palanti, N. Terziev

10:20-11:35	<b>Poster Session</b>	
		<b>Chairs:</b> D. Jones, I. Burawska-Kupniewska
	Strategies for improvement of visibility and acceptance of modified wood	<b>A. Sandak</b> , V. Golja, J. Belda, J. Geissmann-Fuchs, K. Peeters, J. Sandak, J.J. Grkman, S. Hribernik, D. Lipovac, P. Nadrah
	Volatile organic compounds emitted from heat and vacuum- heat treated wood	<b>H. Sivrikaya</b> , D. Tesařová, E. Jeřábková, A. Can
	In-service performance of floorings with modified wood top layer	R. Németh, <b>M. Bak</b>
	Thermo-hydro mechanical densification process of <i>Nothofagus pumilio</i> and <i>Nothofagus antarctica</i> and the effect of annual width ring on modulus of hardness, and dynamical mechanical properties	<b>J.G. Pečnik</b> , M. Schwarzkopf, A. Kutnar
	Enhancing outdoor durability of heat treated wood surface by photo-stabilization by waterborne acrylic coating using bark extract	<b>Ö. Özgenç</b> , E. Bilici
	Changes in wood surface properties caused by aging techniques	<b>A. Rozanska</b> , A. Barski

10:20-11:35	<b>Poster Session (cont.)</b>	
	<b>Chairs:</b> D. Jones, I. Burawska-Kupniewska	
	Photostability of thermally modified poplar wood coated with alkoxysilanes	<b>D. Lechowicz</b> , B. Mazela, W. Perdoch
	Wood properties and extractive exploitation from thermally modified Chestnut wood	<b>P. Cetera</b> , M. D'Auria, L. Milella, D. Russo, L. Todaro
	Antimicrobial particleboards – part 1: preparation and strength	<b>J. Iždinský</b> , L. Reinprecht
	Antimicrobial particleboards – part 2: resistance to bacteria and fungi	<b>L. Reinprecht</b> , Z. Vidholdová
	Selected mechanical properties of lignocellulosic layered composites produced in various temperature conditions	<b>A. Gumowska</b> , M. Krakowski, G. Kowaluk
	Assessment of lignocellulosic-substrate fungi-based materials	<b>L. Marrot</b> , M. Mikuljan, F. Pohleven
	The compressive resistance of low density mycelium boards	<b>Z. Vidholdová</b> , J. Iždinský, R. Lagaňa
	Variability of hemp concrete material performance: a focus to modulus and their calculation methods	<b>C. Niyigena</b> , S. Amziane, A. Chateauneuf
	Characterization of two liquefied agricultural wastes	<b>S.H. Fuentes da Silva</b> , I. Egües, J. Labidi
	Influence of hydrothermal modification on the properties of cellulose and lignin after-service-life valorisation of wood	<b>E. Robles</b> , R. Herrera, J. Fernández, O. Gordobil, J. Labidi
	Improving hydrophobicity and thermal stability of wood through esterification with fatty acids	<b>R. Herrera Díaz</b> , O. Gordobil, P.L. de Hoyos-Martinez, J. Labidi, R. L. Ponte
	Preservation of wood structures in non-controllable environment by the example of pre-stressed laminated timber bridge deck with two curved geometry	<b>T. Teppand</b>
	Sensitivity and reliable design of a timber beam considering crack growth and environmental effects	<b>Y. Aoues</b> , H. Riahi, S.E. Hamdi, T.B Tran, E. Bastidas, R.M. Pitti
	Creep response of European species under environmental and mechanical loadings in outdoor conditions	CF.P. Nziengui, M.A. Ella, <b>R.M. Pitti</b>
	Understanding shrinkage and fracture process of green wood using X-ray-microtomography	JG Mambili, S.E. Hamdi, <b>R.M. Pitti</b>
	Modified wood – research on selected physical and mechanical properties	<b>I. Burawska-Kupniewska</b> , M. Grzeskiewicz, P. Boruszewski
	Paper tissue reinforcement – coating with nanocellulose and silanes	<b>Z. Cao</b> , B. Mazela, W. Perdoch
	Preliminary analysis of bio-sourced hybrid resins as coatings for wood protection	<b>P.L. de Hoyos-Martínez</b> , R. Herrera, J. Labidi, F. Charrier-El Bouthoury
	Nano-modified adhesives for composite wood panels manufacturing	<b>D. Janiszewska</b> , P. Hochmańska

11:35 - 12:15 **Coffee break**

12:15-13:00	<b>Session 5: Thermally modified wood – properties</b>	
	<b>Chairs:</b> D. Sandberg, A. Rozanska	
	Influence of heating rate during thermal modification on some properties of maple wood	<b>G. Milić</b> , M. Glišić, M. Veizović, N. Todorović
	The evaluation of the quality control methods for thermally modified wood	<b>D. Kržišnik</b> , B. Lesar, G. Rep, R. Repič, R. Cerc Korošec, M. Humar
	Physical and elastomechanical properties of full-size fir ( <i>Abies alba</i> ) sawnwood after heat treatment with different intensities	<b>A. Straže</b> , G. Fajdiga, B. Gospodarič

13:00 - 14:00 **Lunch**

14:00 - 14:45 **Working group meetings (WG1, WG2, WG3, WG4)**

14:45 - 15:15 **Reports of WG leaders and conference conclusions**

15:15 - 15:45 **Coffee break**

15:45 - 17:00 **MC meeting**

18:00 - 22:00 **Nikola Tesla Museum & Dinner**