

1st Workshop

Basics for Chemistry of Wood Surface Modification

April 25-26, 2012, Kuchl/Salzburg, Austria

Wednesday April 25, 2012

08:00 – 08:30	E.16
Registration at the Desk (Workshop place)	
08:30 – 08:50	
Opening Session Kerstin Fink, Doris Walter, Alexander Petutschnigg: Welcoming	
08:50 – 10:00	
Overview of the COST Action FP1006	
08:50	Stefanie Wieland, Bartlomiej Mazela: Bringing new function to wood through surface modification. COST Action FP1006
09:10	Gerhard Gröll, Holger Miltitz: Wood surface modification and functionalization - Working Group 1
09:20	Electra Papadopoulou, Graham Ormondroyd: Wood interface modification and interface interactions - Working Group 2
09:30	Sergej Medved, Guido Hora: Process and Service life modelling - Working Group 3
09:40	Presentation of Results of the Training Schools
10:00 – 10:30	
Coffee Break	
10:30 – 11:00	
Philip Evans (Chairperson) – Session I	
Keynote speaker	
10:30	Holger Miltitz: Surface modification versus woodmodification: properties and challenges
11:00 – 11:40	
Session I – Wood Surface Modification and Functionalization (WG1)	
11:00	Claudia Contrini, Emanuela Callone, Simona Maggini, Sabrina Palanti, Rosa Di Maggio: Preparation and characterization of antimicrobial coatings for wood preservation
11:20	Gheorghe Dinescu, M.D. Ionita, M. Teodorescu, E. R. Ionita, C. Stancu: Atmospheric pressure plasma sources suitable for modification of wood surfaces

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11:40 – 12:00

Session I – Poster Presentations

Emma-Rose Coad, Zarah Walsh, Oren A. Scherman: Confocal microscopy and raman imaging for the assessment of cell wall impregnation

Vjekoslav Živković, Josip Miklečić: Surface properties of Croatian heat treated wood floorings

Anna-Kaisa Anttila, Anna Maria Pirttilä, Hely Häggman, Riitta Julkunen-Tiitto: Plant polyphenolics as antimicrobial agents preventing wood decay

12:00 – 13:00

Lunch

13:00 – 14:40

Session I continues

13:00 **Martin Arnold:** Options to tailor wood surface properties

13:20 **Simona Maggini, Elisabetta Feci, Sabrina Palanti, Rosa Di Maggio:** (i/o) alkoxysilane/3-butynoate-substituted Zirconium-oxocluster copolymers as coatings for wood preservation

13:40 **Carsten Mai, Zefang Xiao, Yanjun Xie:** Modification of solid wood with glutaraldehyde to improve outside weathering performance

14:00 **Marco Petrič, Franc Budija, Arnaud Cheumani-Yona, Borut Kričej, Andreja Kutnar, Matjaž Pavlič, Pavli Pori, Črtomir Tavzes:** Overview of possible uses of liquefied lignocellulosic biomass for surface finishing of wood

14:20 **Elisa Cappelletto, Rosa Di Maggio:** Surface modification of wood with functionalized alkoxisilanes

14:40 – 15:10

Coffee Break and Poster Presentation

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15:10 – 15:40	
Holger Militz (Chairperson) - Session II	
Keynote speaker	
15:10	Callum Hill: Surface Modification for bonding of wood surfaces – An overview
15:40 – 16:20	
Session II – Wood interface modification and interface interaction (WG2)	
15:40	Wolfgang Gindl-Altmutter, Michael Obersriebnig: Wood adhesive interactions at cellular level by means of a new position-resolved micromechanical assay
16:00	Sergej Medved, Vladimir Jambreković, Milanka Djiporović-Momčilović: Quality of wood based panel surface and its impact on surfacing with melamine impregnated paper
16:20 – 16:40	
Session II – Poster presentations	
Jörn Rathke, Martin Weigl, Ulrich Müller: Double cantilever I-beam test (DCIB) - characterization of adhesive bonding and wood raw material properties of particleboards	
Olli Paajanen, Matti Kairi: Thermomechanical modification effect in contact drying of veneer	
Ilaria Santoni, Benedetto Pizzo: Wood surface modification for mussel imitation with protein adhesive	
Róbert Németh, József Ábrahám, Szabolcs Komán and László Tolvaj: Colour change of different wood surface due to reactions with different glues and during service life with and without indoor sun radiation	
João Ferra, Jorge Martins, Nuno Costa, Cristina Coelho, João Pereira, Paulo Cruz and Luisa Carvalho: Study of the bonding performance of UF/PVAc formulations with low formaldehyde emission	

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16:40 – 17:10	
Coffee Break and Poster Presentation	
17:10 – 18:30	
Session II continues	
17:10	Marie-Pierre Laborie: Plasma technologies for wood, wood-based composites and cellulose fibers: Experiences and prospects
17:30	Jürgen LeBlhumer, Judith Sinic, Martin Reif, Andreas Haider, Diethard Cascorbi: Surface modification of WPC products to improve bonding strength
17:50	Judith Sinic, Martin Weigl: Atmospheric plasma treatment of natural fibres
18:10	Magnus Wålinder, Dennis Jones: Some experiences and tools for the assessment of surface and adhesion characteristics of wood
18:30 – 20:30	
Core Group Meeting	

Thursday April 26, 2012

08:30 – 09:00	
Gerhard Grüll (Chairperson) - Session II	
Keynote speaker	
08:30	Philip Evans: Focussing on wood surfaces: Is it worth the effort?
09:00 – 10:00	
Session II continues	
09:00	Marius Catalin Barbu: Developments of wood based composites and the processing industries
09:20	Pavlo Bekhta, Diana Tymyk: Enhancing the bondability of wood veneers through surface activation treatment
09:40	Milan Šernek: Reactivation of inactivated wood surfaces
10:00 – 10:30	
Coffee Break and Poster Presentation	
10:30 – 12:00	
Visit of the Laboratory and production area	
12:00 – 13:30	
Lunch	
13:30 – 14:00	
Sergej Medved (Chairperson) - Session III	
Keynote speaker	
13:30	Marie-France Thévenon: Wood protection using tannin-boron associations

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14:00 – 15:00	
Session III	
14:00	Lone Ross Gobakken, Olav A. Høibø: Factors influencing mould growth and modeling of aesthetic service life
14:20	Boris Forsthuber, Gerhard Grüll: The effects of HALS compounds in the prevention of photo-degradation of acrylic clearcoats and wooden surfaces
14:40	Jakub Sandak, Anna Sandak, Dusan Pauliny, Sandro Bonfa, Simone Meglioli: Multi sensor approach for monitoring of the changes to wood surface exposed to natural and artificial weathering
15:00 – 15:30	
Session III – Poster presentations	
Jöran Jermer, Dennis Jones: WoodExter – Service life and performance of exterior wood above ground	
Carmen-Mihaela Popescu, Bogdan C. Simionescu: Evaluation of the weathering behaviour of natural and synthetic protective coatings for wood	
Emilia-Adela Salca, Gavril Budau: Review upon the colour stability of black alder veneers under sunlight influence	
Maria-Cristina Popescu, Carmen-Mihaela Popescu: The study of structural changes of Tilia Cordata wood induced by exposure to accelerated UV/Vis-light	
Markus Hauptmann, Hedwig Hanea, Ulrich Müller, Christian Hansmann, Marcus Müller: The use of the CIEDE 2000 colour difference equation for quality assessment of high quality hardwood	
15:30 – 16:00	
Coffee Break and Poster Presentation	
16:00 – 16:10	
Further steps and information	
16:10 – 16:30	
Closing	
19:00	
Banquet	

Friday April 27, 2012

		Room
08:30 – 10:00		
Working Group Meetings		
08:30	Working Group 1 Meeting	E 0.13
08:30	Working Group 2 Meeting	E 0.17
08:30	Working Group 3 Meeting	E 0.15
10:00 – 10:30		
Working Group Meeting		
10:00	General discussion of the Working Groups	E 0.17
10:30 – 12:30		
Management Committee Meeting		E 0.15
End of the meeting		
Lunch		

Contact & register:

Ingrid.seidl@fh-salzburg.ac.at



Workshop venue:

Salzburg University of Applied Sciences, Kuchl/Salzburg, Austria

<http://cost-fp1006.fh-salzburg.ac.at/>