



IWMS26

14.15 APRIL 2025 - FLORENCE

DAY 1

PROGRAMME

14/04/2025

08.15	Registration and welcome coffee		
08.45	Welcome from the organisers and the International advisory board		
08.55	Welcome from IUFRO - Julie Cool and Louis Denaud		
09.00	Welcome from ACIMALL - Dario Corbetta (director)		
09.05	Memorial for Ryszard Szymani		
09.10	Introductory		
09.20	Introductory		
09.30	Introductory		
09.40	Session 1	EquinOCS Cutting mechanics	
09.40	1	Chip formation research using high speed filming, cutting force measurements and computed tomography scanning – a first approach	Magnus Fredriksson, Frank Schleicher, Fredrik Larsson, Jörgen Kajberg, Yunbo Huang, Mikael Svensson
09.55	2	Calibration and sensitivity analysis of a bonded particle model for the simulation of chip ejection from wood cutting tools	Julius Hausmann, Christian Gottlöber
10.10	3	Tool design to optimise surface characteristics in environmentally profiled engineered wood products	Jimmy Johansson, Daniel Mellqvist
10.25	4	Impact of sandpaper and machining settings on triboelectric charges in wood sanding	Lena Maria Leiter, Julie Cool
10.40	5	Analysis of tool-workpiece interaction in peripheral planing of Douglas Fir using jointed hydro-clamped tools	Christian Kortüm
10.55	COFFEE BREAK and poster discussion		
11.40	Session 2	EquinOCS Cutting force and power	
11.40	1	Cutting force predictions in orthogonal cutting by a foam model	Gerhard Sinn, Andreas Schütz, Helga Lichtenegger, Kazimierz Orlowski, Daniel Chuchala, Daniel Chuchala
11.55	2	Friction forces between cutting edge flanks and machined wood due to Scots pine wood elasticity	Daniel Chuchala, Yunbo Huang, Kazimierz Orlowski, Mikael Svensson, Magnus Fredriksson
12.10	3	Cutting forces model verification in Industry 4.0 environment	Giacomo Goli, Rémi Curti, Bertrand Marcon, Rocco Furferi
12.25	1	Cutting force predictions in orthogonal cutting by a foam model	Gerhard Sinn, Andreas Schütz, Helga Lichtenegger, Kazimierz Orlowski, Daniel Chuchala, Daniel Chuchala
12.40	2	Friction forces between cutting edge flanks and machined wood due to Scots pine wood elasticity	Daniel Chuchala, Yunbo Huang, Kazimierz Orlowski, Mikael Svensson, Magnus Fredriksson
12.55	LUNCH and poster discussion		
13.55	Keynote 1	Use of millimeter waves for non-destructive quality analysis during the production stages of fiber-based panels	Massimo Bergonzini, Riccardo Centi
14.15	Keynote 2		

14.35 Session 3 EquinOCS New tools and machines

14.35	1		Wood-based materials for machine components such as machine enclosures	Matthias Schneider, Thomas Stehle, André Jaquemod, Hans-Christian Moehring
14.50	2		Improvements on an experimental micro-lathe, toward a better understanding of the chip formation during wood peeling	Hugo Curial, Louis Denaud, Joffrey Viguier, Bertrand Marcon, Fabrice Verjat
15.05	3		Water repellency of wood surfaces by high-speed friction processing	Tadashi Ohtani, Ryuichi IIDA, Doppo Matsubara
15.20	4		Exclusive finishing with DMC laser technology	Bruno Di Napoli, Lorenzo Bugli, Fabrizio Pigato, Manolo Bertozzi

15.35 Session 4 EquinOCS Other processes

15.35	1		Thermally Modified Wood (TMW) with TermoVuoto method	Alessio Lucarelli, Umberto Pagnozzi
15.50	2		Numerical modelling of the particle flight behavior of wood dust during surface sanding	André Jaquemod, Jonas Gerold, Kamil Güzel, Hans-Christian Moehring

16.15 CLOSE DAY 1

17.00 In-seminar tour

20.00 CONFERENCE BANQUET

DRAFT



IWMS26

14.15 APRIL 2025 - FLORENCE

DAY 2

PROGRAMME

15/04/2025

08.15	Welcome coffee		
-------	----------------	--	--

08.45 Session 5 EquinOCS Sensors and quality

08.45	1	Advances in robotic sanding of wooden parts	Alfredo Aguilera, Ricardo Alzugaray, Pablo Sanhueza, Eduardo Diez, Fabián Iglesias
09.00	2	Deep learning approaches for the automation of lathe check detection in wood veneers	Caroline Marc, Bertrand Marcon, Louis Denaud, Stéphane Girardon
09.15	3	Systematic and comprehensive quality specification and verification for furniture industry - DIN 919, DIN 68100, VDI 3414, VDI 3415	Frieder Scholz, Adrian Riegel, Christian Kortüm
09.30	4	Evaluation of the capability of poly-articulated robots for wood machining and identification of parameters correlated with surface quality in robotic wood machining	Linda NASRI, Rémi Curti, Pierre LARRICQ, Florent EYMA
09.45	5	Influence of pinewood moisture swelling and shrinkage on robotic montage susceptibility	Maciej Sydor, Anna Jasińska, Wojciech Turbański
10.00	6	Simulation of internal defect detection in logs scanned with a tilted X-ray imager	Jakub Sandak, Piotr Taube, Daniel Chuchala, Kazimierz Orłowski
10.15	7	Embedded sensors in wood cutting tools State of Art and future developments	Abdou Djouadi
10.30	8	Optimization of knots assessment using laser scattering for predicting beech mechanical properties	Michela Nocetti, Giovanni Aminti, Martin Bacher, Nicola Conforto, Michele Brunetti
10.45	9	System for real-time assessment of laminated particleboard edge quality	Bartosz Pałubicki, Grzegorz Kowaluk, Martino Negri, Jakub Sandak

11.00 COFFEE BREAK

11.40	Lecture	Critical Speed Design of Circular Saws	Gary Schajer
12.05	Keynote 3		
12.25	Keynote 4		

12.45 LUNCH

13.40 Session 6 EquinOCS Process optimization

13.40	1	A case study on acoustic anomaly detection for a wood planing machine dataset	Anthony Deschênes, Rémi Georges, Cem Subakan, Michael Morin
13.55	2	Efficient timber construction production: process integration and cyber-physical systems for batch size one manufacturing	Sebastian Bitzan, Lucas Heider, Lars Jonas, Daniel Schulz
14.10	3	Autoencoder-based anomaly detection in wood machining for quality assurance and process monitoring	André Jaquemod, Kamil Güzel, Hans-Christian Moehring
14.25	4	Effects of gap settings of knife in a disk chipper on the size of Japanese cedar chips	Yosuke Matsuda, Kiyohiko Fujimoto
14.40	5	Steam softening for solid wood bending, focussing on dry, kiln dried or pre-bend lumber	Otto Eggert
14.55	6	High volume semi automatized on-site production of sustainable refugee shelters	Adrian Riegel

15.10	7		Effect of tool wear and wood species on surface quality and finger-joint performance	Julie Cool, Shiqing Li, William Nkeuwa
15.25	8		How digital printing technology can optimize the wood-based element finishing process	Lorenzo Melloni

15.40 COFFEE BREAK

16.15 Session 7 EquinOCS Environmental and market issues

16.15	1		Machine woodworking and environment, social and governance (ESG) requirements – A perspective of the southeast asian wood products industry	Jegatheswaran Ratnasingam
16.30	2		Assessing the impact of machining processes on industrial wood packaging: an LCA-based approach	Giulia Cortina, Giacomo Goli, Viola Arena, Lisa Bernacchi, Massimo Delogu
16.45	3		Influence of wood chip moisture content on the environmental impact of a biomass boiler of a sawmill drying plant in Veneto	Annalisa Magnabosco, Martina Boschiero, Michela Zanetti
17.00	4		Wood traceability along the whole value chain: exaggeration or obligation	Jakub Sandak, Antonio Ruano, Arnau Picó, Simon Stegel, Jana Hmeljak, Bengt Sörvik, Mari Selkimäki, Heli Kymäläinen, Blas Mola, Enrico Ursella, Gennaro Azzollini, Johan Ekenstedt, Garret Mullooly, Alex Poveda, Silvia Melegari, Ryszard Sandak, Cuauhtli Campos Mijangos, Gianni Picchi

17.20 CLOSING REMARKS AND PRIZES

17.30 END

16 and 17/4/2025 Post seminar tour