Monday, May 21, 2007

08:00 – 08:45 Welcome Coffee & Registration
08:45 – 09:00 Conference opening
Andreas Mortensen, Director of the Institute of Materials, EPFL
Stefanie Stanzl-Tschegg, Chair of COST Action E35

09:00 Session 1 Chairman Lars Berglund
09:00 – 09:40 Keynote: J. Nairn
Numerical Modeling of Deformation and Fracture of Wood including Heterogeneity and Anisotropy

09:40 – 10:00 C. Modén, L. Berglund
On the softness of wood

10:00 – 10:20 P. Todorovic, D. Vilotic, Z Djurisic, S. Svrzic, N. Atanackov
On Influence of Species of Conifers on Values of Absorption Coefficient for Gamma Rays in Wood Tissue

10:20 – 11:40 Coffee Break & Poster Presentations
A. Svagan, M. Azizi Samir, L. Berglund
Biomimetic polysaccharide nanocomposites of high cellulose content
M. Henriksson, Lars A. Berglund
Microfibrillated cellulose films
J. Netrval
Dimensional stabilization of wood by reactive poly (ethylene glycol)-diacrylate cell wall bulking
H. Schaukin, A. Svagan
Biomimetic cellulose nanocomposite foams
K. Bytebier, R. Arinero, O. Arnould
Mechanical characterization of wood at the submicrometre scale: a prospective study

11:40 Session 2 Chairman Ingo Burgert
11:40 – 12:00 G. Sinn, T. Ters, S. Stanzl-Tschegg
Surface Energy and Wettability of Knots and Surrounding Area

12:00 – 12:20 G. Golli, D. Wyeth, A. Atkins, J. Jeronimidis, M. Fioravanti
Orthogonal cutting of wood at high speed using a modified Split Hopkinson Bar and a High Speed Camera

12:20 – 12:40 K. Orlowski, A. Atkins
Determination of the cutting power of the sawing process using both preliminary sawing data and modern fracture mechanics

12:40 – 14:00 Lunch

14:00 Session 3 Chairman Rémy Marchal
14:00 – 14:20 J. Sandak, K. Orlowski, M. Negri
More wood, less chips: an effect of the circular saw’s rim speed on the kerf width

14:20 – 14:40 G. Kovaluk, I. Frackowiak, P. Beer, B. Palubiecki, W. Szymanski
Comparison of the Tool Wear in Milling of the Particleboards Produced from Wood and Rape Straw
14:40 – 15:00  U. Heisel, S. Martynenko, M. Schneider  
Influence of Chip Space Filling on Cutting Forces in High-Speed Milling of Wood and Derived Timber Products

15:00 – 16:20  Coffee Break & Poster Presentations

R. Hernández, J. Cool  
Evaluation of water and solvent-borne coating performance for three surfacing methods on paper birch wood

I. Fuchs, Ch. Raatz, M. Peter, T. Pflüger  
Thermo-mechanical processing of wood and wood-materials and the effect of the surface roughness

D. Loidl, S. Puchegger, N. Gierlinger, W. Beikircher, S. Stanzl-Tschegg  
Elastic properties of thermally treated wood at elevated temperatures

P. Navi, F. Girardet, Ph. Vulliemin, M. Spycher, F. Heger  
Effects of post-treatment parameters on densified wood set-recovery

J. Sandak, G. Sinn  
Evaluation of the fracture area by 3D scanning

L.-E. Denaud, L. Béron, A. Ratle, R. Marchal  
On-line measurement of the average lathe checks frequency of peeled veneers

16:20  Session 4  
Chairwoman Stefanie Stanzl-Tschegg

16:20 – 17:00  Keynote: P. Morlier, S. Morel, J.-L. Courreau  
Connections between the r-curve and the cohesive crack properties for quasi-brittle materials like wood

17:00 – 17:20  M. Sedighi-Gilani, P. Navi  
Mechanism of fracture in heterogeneous microstructure of softwood

17:20 – 17:40  D. Keunecke, S. Stanzl-Tschegg, P. Niemz  
Mode I fracture parameters and failure characteristics of yew and spruce loaded in the RT and TR crack propagation system by means of a micro wedge splitting test

17:40 – 18:00  T. Ramananantoandro, F. Eyma, J.-Y. Paris, J. Denape  
Linear measurement of friction parameters on oak pedunculate as related to wood ligneous plane.

Tuesday, May 22, 2007

16:20  Session 5 (continued)  
Chairwoman Stefanie Stanzl-Tschegg

08:30 – 08:50  L. Salmén, J. Stevanic, A.-M. Olsson, L.-Å. Hammar  
Properties of the cell wall primary wall layer in relation to fibre separation

08:50 – 09:10  M. Eder, S. Stanzl-Tschegg, I. Burgert  
In-situ ESEM study on wood cells under tension

09:10 – 09:30  M. Bergenstråhle, L. Berglund, K. Mazeau  
Inherent properties of cellulose.

09:30 – 10:50  Coffee Break & Poster Presentations

10:50  Session 5  
Chairman Anthony Atkins

Some Examples of Determinations of Absorption Coefficient for Gamma Rays in Tissue of Some Softwood Species

Studies of Relationship between Values of Absorption Coefficient for Gamma Rays in Wood Tissue and the Selected Hardwood Species
I. Bjurhager, L. Berglund, S. Bardage
“Green” properties of green materials: tensile strength and Young’s modulus of juvenile hybrid aspen (Populus tremula x Populus tremuloides)

J. Martins, C. Coelho, P.-J. Méausoone, D. Masson, L. Carvalho, C. Costa
A model for predicting the quality of a finished surface from machining conditions

P. Sawosz, W. Szymanski, P. Beer
Scratch a special quality defect of surface and edge of wood and particleboard

T. Astrup, K. Kristensen, J. F. Olesen, S. Svensson
Inverse analysis of cohesive fracture in CT-tests

10:50 – 11:10 A. Rougie, P.-J. Méausoone, S. Auchet, P. Triboulot
Cutting analysis of hedge’s growth sprouts

11:10 – 11:30 D. Wyeth, G. Goli, A. Atkins, G. Jeronimidis, M. Fioravanti
Friction in orthogonal cutting of Douglas fir at varying grain orientations: measurements and consequences

11:30 – 11:50 H. Aknouche, A. Zerizer, C. Nouveau, Y. Benlatreche
Study of the wear behaviour of carbide-tipped tools untreated and CRN-treated in the field of the breaking up of the pine of Alep

11:50 – 13:10 Lunch

13:10 Session 6

Chairman George Jeronimidis

Italian woodworking machinery industry and safety standardization

13:50 – 14:10 E. Csanády
Thermal load in wood cutting tools

14:10 – 14:30 H. El-Haouzali, R. Marchal, L. Bleron, J.-C. Butaud, F. Cottin
Peeling of poplar: cultivars and forest stations effects on cutting forces and veneer quality

14:30 – 15:50 Coffee Break & Poster Presentations

P. Haller
Manufacturing of wooden profiles by forming

B. Palubicki, K. Olejniczak, G. Kowaluk, J. Hric, P. Beer
The Change of Laminated Particleboard Edge Quality while Sawing with Progressing Teeth Wear

J. Chladil
Tool Accompanying Phenomenons in Wood Machining Processes

E. Csanády, S. Németh, M. Varga
Investigation of clamping on a CNC router

Ch. Kohlhauser, K. Hofstetter, Ch. Hellmich, J. Eberhardsteiner
Determination of orthotropic elastic stiffness tensor components of wood with ultrasonic waves of different frequencies

K. Watanabe, E. Landis
An Acoustic Emission-Based Study of Energy Dissipation in Radially Loaded Spruce

15:50 Session 7

Chairman Eric Landis

15:50 – 16:10 H. Wust, P. Haller, G. Wiedemann
Experimental study of the effect of a laser beam on the morphology of wood surfaces

16:10 – 16:30 A. Outahyon, R. Marchal, J.-C. Butaud, R. Collet
Influence of cutting speed and storage time on Douglas-fir surfaces wettability

16:30 – 16:50 J. Johansson, D. Sandberg
Preparation of wood with pulsed UV-laser ablation for characterisation of the wood structure

16:50 – 17:10 T. Astrup, K. Kristensen, J. Olesen, S. Svensson
Experimental determination of strain field in CT-specimens during crack propagation
Conference Dinner

Wednesday, May 22, 2007

09:00    Session 8    Chairman Peter Niemz

09:00 – 09:20    K. Hofstetter, Ch. Hellmich, J. Eberhardsteiner
Mechanical relevance of structural features of wood at different observation scales:
investigations based on multistep homogenization

09:20 – 09:40    J. Ljungdahl, L. Berglund
Why are the radial properties of archeological Vasa oak reduced compared with recent oak?

09:40 – 10:00    M. Roohnia, J. Gril, I. Bremaud, N. Manouchehri
Sound Velocity for Evaluating a Piece of Wood in Acoustical Performances

10:00 – 10:20    P. Mazzanti, L. Uzielli
Preliminary analysis of compression set shrinkage on Poplar wood across the grain

10:20 – 11:40    Coffee Break & Poster Presentations

11:40    Session 9    Chairman Frieder Scholz

P. Niemz, M. Wyss, M. Fuhr
Exploratory analysis of failure behaviour of glued joints at tensile shear loading

F. Scholz, A. Riegel, J. Ratnasingam
Assessment of Sanded Surfaces

J. Honkanen, M. Hughes
Challenges in the Characterization of the Wood Surface: A Simulation Approach

C. Labidi, L.-E. Denaud, C. Nouveau, R. Collet, L. Henry
Effect of the sand-blasting of edge peeling tools on the cutting forces and wear resistance

N. Garrido, J. Martins, L. Carvalho, J. Mendes, C. Costa
Influence of the sawing conditions on particleboard edge quality

11:40 – 12:00    P. Simon, D. Fozao, H. Maigre, D. Eyheramendy, J.-F. Jullien,
E. Vidal-Salle, F. Morestin
Study of the transverse structure of wood at different scales and consequences on the fracture modes

12:00 – 12:20    P. Czarniak, J. Wilkowski, J. Górski
Influence of tool wear on vibration and noise signals for variable feed and rotation spindle speed

12:20 – 12:40    A. Hemmasi
Prediction of Orthogonal Parallel Cutting Force of Sugar Maple in Saturated and Dry Moisture Content

12:40 – 14:00    Lunch

14:00 – 15:00    WG Meetings will be held at the IMX (Institute of Materials) at EPFL
WG1 : Room MXD 118
WG2 : Room MXG 237
WG3 : Room MXG 337

15:00 – 15:30    Coffee break

15:30 – 17:30    MC- Meeting & Evaluation : Polydôme Building (see the plan)