Tuesday, October 5
15.00-16.00h: Registration
16.00-18.00h: Tutorial
   Markku Kataja: MICRO X-RAY TOMOGRAPHY
18.00-19.30h: Welcome Drink

Wednesday, October 6
08.00-09.20h: Registration / Coffee
09.20-09.40h: Opening – Uwe Schmitt & Karin Hofstetter
09.40-10.20h: Keynote 1
   Martin Müller: INVESTIGATING THE NANOSTRUCTURE OF THE WOOD CELL WALL USING SYNCHROTRON RADIATION: STATUS AND PERSPECTIVES
   Chair: Uwe Schmitt
10.20-12.00h: Session 1: Application of X-Ray Technology
   Chair: Lennart Salmén
10.40-11.00h: Kirsi Leppänen, Jessica Lucenius, Peter Immerzeel, Ewa Mellerowicz, Kurt Fagerstedt, Pekka Saranpää & Ritva Serimaa: EFFECT OF MOISTURE ON CELLULOSE STRUCTURE IN JUVENILE HARD- AND SOFTWOOD AS REVEALED BY X-RAY DIFFRACTION

11.00-11.20h: Kari Pirkkalainen, Jessica Lucenius, Marko Peura, Pekka Saranpää & Ritva Serimaa: MULTISCALE INVESTIGATIONS ON TRACHEIDS AND RAY PARENCHYMA CELLS OF SPRUCE


11.40-12.00h: Tancrède Almeras, Arthur Gronvold, Delphine Jullien & Arie van der Lee: X-RAY DIFFRACTION STUDY OF WOOD CELLULOSE BEHAVIOUR DURING HYGRO-THERMAL TREATMENT AND DRYING

12.00-13.00h: Lunch

13.00-14.00h: Session 2: Structure/Function-Relationships Chair: Lisbeth Thygesen

13.00-13.20h: Christian Lanvermann, Uwe Schmitt & Peter Niemz: MULTI-LEVEL ANALYSIS OF LIGNIN DISTRIBUTION AND CELL GEOMETRY IN PICEA ABIES (L. KARST.) AS A BASIS TO EXPLAIN ANISOTROPIC SWELLING

13.20-13.40h: Stig L. Bardage: BASIC MECHANISM OF SECONDARY CELL WALL FORMATION IN SOFTWOOD TRACHEIDS

13.40-14.00h: Daniel Keunecke, Jozsef Garab, Stefan Hering, Jozsef Szalai & Peter Niemz: INFLUENCE OF THE GROWTH RING ANGLE ON TRANSVERSE ELASTIC PROPERTIES OF SOFTWOODS

14.00-14.40h: Poster Presentations

14.00-14.05h: Wolfgang Fischer, Lisbeth Kappel, Ulrich Hirn, Wolfgang Bauer & Robert Schennach: POLARIZED LIGHT MICROSCOPY FOR FIBER-FIBER BOND AREA MEASUREMENT REVISITED

14.05-14.10h: Jasna Simonović, Jasna Stevanic, Daniela Djikanović, Jelena Bogdanović Pristov, Lennart Salmén & Ksenija Radotić: POLARIZED FT-IR STUDY OF CELL WALLS OF A HARDWOOD AND A SOFTWOOD

14.10-14.15h: Nanna Bjerregaard Pedersen, Claus Felby, Poul Jensen & Charlotte BjörDAL: MICROSCOPIC AND SPECTROSCOPIC CHARACTERIZATION OF WATERLOGGED ARCHAEOLOGICAL WOOD DEGRATED BY MICROORGANISMS IN ANOXIC ENVIRONMENTS


14.20-14.25h: A. Zerizer, S. Kennouche, A. Daoui & A. Aknouche: RESISTANCE TO CRACK PROPAGATION OF ALGERIAN WOOD

14.25-14.30h: Jelena Bogdanović Pristov, Aleksandra Mitrović, Daniela Djikanović, Dragoslav Mutavdžić, Jasna Simonović, Ksenija Radotić & Ivan Spasojević: HYDROXYL RADICAL-SCAVENTGING CAPACITY OF CELL WALL FROM NEEDLES OF SERBIAN SPRUCE (PICEA OMORIKA (PANCIC) PURKYNIE)
14.30-14.35h: Jean Eudes Maigret & Bernard Kurek: ANALYSIS OF SURFACE PROPERTIES OF BOTH HEMP FIBERS AND WOOD LIKE FIBERS

14.35-14.40h: Marcus Müller, Timo Grüneberg, Holger Militz & Andreas Krause: INFLUENCE OF PARTICLE GEOMETRY AND ORIENTATION ON SELECTED PROPERTIES OF WOOD POLYMER COMPOSITES

14.40-15.20h: Coffee Break

15.20-17.00h: Session 3: Moisture Transport and Sorption Behaviour
Chair: Kristofer Gamstedt

15.20-15.40h Ksenija Radotić, Charles Roduit, Sandor Kasas, Jasna Simonović, Jelena Bogdanović, Daniela Djikanović & Giovanni Dietler: STIFFNESS OF THE ISOLATED ARABIDOPSIS CELL WALL DURING SOAKING

15.40-16.00h Johannes Eitelberger & Karin Hofstetter: THE PHYSICAL BACKGROUND OF MOISTURE TRANSPORT IN WOOD BELOW THE FIBER SATURATION POINT AND ITS MACROSCOPIC DESCRIPTION

16.00-16.20h David Mannes, Walter Sonderegger, Stefan Hering, Eberhard Lehmann & Peter Niemz: DETERMINATION OF MOISTURE TRANSPORT PROCESSES BY MEANS OF NEUTRON IMAGING

16.20-16.40h Staffan Svensson: MOISTURE TRANSPORT IN SEASONED WOOD; COUPLED DIFFUSION MODEL AND MODEL SENSITIVITY

16.40-17.00h Wenwang Wu, Michele Griffa, Jan Carmeliet & Dominique Derome: 3D SWELLING/SHRINKAGE OF SPRUCE WOOD AT THE CELLULAR SCALE

17.30-17.45h: Bus Transfer to Boat

18.00-21.00h: Boat Trip with Dinner

Thursday, October 7

08.30-09.10h: Keynote 2
Stephen Eichhorn: DEFORMATION MICROMECHANICS OF CELLULOSE FIBRES AND COMPOSITE INTERFACES USING RAMAN SPECTROSCOPY
Chair: Karin Hofstetter

09.10-10.30h: Session 4: Microstructure and Topochemistry of Cell Walls
Chair: Uwe Schmitt

09.10-09.30h Lennart Salmén & Anne-Mari Olsson: STRUCTURAL ORGANISATION OF THE WOOD POLYMERS IN HARDWOOD - NORMAL AND TENSION WOOD

09.30-09.50h Karin Fackler, J. S. Stevanic, M. Schwanninger & Lennart Salmén: LOCALISATION AND CHARACTERISATION OF INCipient AND EARLY WOOD DEGRADATION PROCESSES WITH FT-IR IMAGING MICROSCOPY IN COMBINATION WITH MULTIVARIATE IMAGE ANALYSIS

09.50-10.10h Mathias Rehbein & Gerald Koch: TOPOCHEMICAL INVESTIGATION WITHIN INDIVIDUAL CELL WALL LAYERS OF SCOTS PINE (PINUS SYLVESTRIS L.) SAPWOOD DEGRADED BY THE BROWN-ROT FUNGUS ANTRODIA VAILLANTII
10.10-10.30h: **Igor Dobovšek**: EXPLORING PIEZOELECTRIC PROPERTIES OF WOOD AND RELATED ISSUES IN MATHEMATICAL DESCRIPTION

10.30-10.45h: **Poster Presentations**

10.30-10.35h: **Thomas K. Bader, C. Wikete, A. Jäger, Karin Hofstetter & J. Eberhardsteiner**: MECHANICAL PROPERTIES AND MICROSTRUCTURAL CHARACTERISTICS OF HARDWOOD

10.35-10.40h: **Patrice Dole, Johnny Beaugrand, Gérard Mougin & Bernard Kurek**: MECHANICAL PROPERTIES OF CELLULOSIC FIBRE COMPOSITES AS FUNCTION OF FIBRE CHEMICAL QUALITY, PLASTIC TYPOLOGY AND PROCESSING WAY

10.40-10.45h: **Thomas Joffre & Kristofer Gamstedt**: MOISTURE INDUCED SWELLING OF WOOD FIBRES IN THE CONSTRAINED CASE OF A COMPOSITE MATERIAL

10.45-11.15h: **Coffee Break**

11.15-12.35h: **Session 5: Modelling and Wall Modification**

Chair: Michaela Eder

11.15-11.35h: **Landry Charlier & Karim Mazeau**: ATOMISTIC MODELLING OF LIGNOCELLULOSIC COMPLEXES

11.35-11.55h: **Ingo Mayer, Christelle Ganne-Chédeville, Katja Hunger, Gerald Koch, Eberhard Lehmann, Urs von Arx & Frédéric Pichelin**: THERMAL TREATMENT OF BEECHWOOD RAILWAY SLEEPERS FOR RECYCLING. CHANGES IN WOOD MICROSTRUCTURE AND MECHANICAL PROPERTIES

11.55-12.15h: **Cedric Montero, Bruno Clair, Tancrède Almeras & Arie van der Lee**: X-RAY DIFFRACTION USE FOR NANOSTRUCTURAL INVESTIGATIONS OF WOOD CELLULOSE DEFORMATION

12.15-12.35h: **Rahime Bag, Johnny Beaugrand, Patrice Dole & Bernard Kurek**: STUDY OF THE ACID IMPREGNATION OF WOODY HEMP CORE IN AMBIENT CONDITION

12.35-13.45h: **Lunch**

13.45-15.15h: Working Group Meetings

WG Oral Presentations:

**Marco Fioravanti, Luigi Rigon, Nicola Sodini & Franco Zanini**: X-RAY MICROTMOMOGRAPHY WITH LARGE DETECTORS

**Martin Dressler, Christian Lanvermann, Daniele Derome, R. Guyer & J. Carmeliet**: POROELASTIC MODELLING OF THE COUPLED MECHANICAL MOISTURE BEHAVIOUR OF WOOD

**Alexander Pfriem & Mario Zauer**: INVESTIGATIONS TO THE UNSTEADY SORPTION BEHAVIOUR OF THERMALLY MODIFIED WOOD AND ITS CONNECTION TO THE ALTERATION OF PORE STRUCTURE DUE TO THERMAL TREATMENT

**Vladimirs Biziks, Lubova Belkova, Elina Kapaca & Bruno Andersons**: EFFECT OF THE HYDROTHERMAL MODIFICATION ON THE ANATOMICAL STRUCTURE OF BIRCH WOOD

**Ingela Bjurhager, Anne-Mari Olsson, Bo Zhang, L. Gerber, M. Kumar, L.A. Berglund, Ingo Burgert, Björn Sundberg &**
**Lennart Salmén**: ULTRA-STRUCTURE AND MECHANICAL PROPERTIES OF WOOD FROM TRANSGENIC *POPULUS* WITH REDUCED LIGNIN CONTENT

15.15-15.45h: Coffee Break
15.45-17.30h: Management Committee Meeting
19.00-22.00h: Conference Dinner at "Hotel Alt-Lohbrügger Hof"

**Friday, October 8**

09.20-10.00h: **Keynote 3**
Daniel Wagner: THE MECHANICS OF SMALL OBJECTS: SELECTED EXPERIMENTS FROM VARIOUS LANDSCAPES
Chair: Michaela Eder

10.00-11.40h: **Session 6: Micromechanics of Wood**
Chair: Karin Hofstetter
10.00-10.20h: Pierre Cabrolier, Françoise Huber, Xavier Frank, Giana Almeida & Patrick Perré: EXPLORATION OF WOOD SUB-CELL WALL ORGANIZATION IN THE TRANSVERSAL PLANE BY CONFOCAL RAMAN MICRO-SPECTROMETER, WITH MICROMECHANICAL PERSPECTIVES
10.20-10.40h: Kristofer Gamstedt: MICROMECHANICS OF MOISTURE-INDUCED DIMENSIONAL INSTABILITY OF WOOD-BASED COMPOSITES
10.40-11.00h: Ahmad Rafsanjani, Dominique Derome & Jan Carmeliet: A MICROMECHANICAL APPROACH TO THE NONLINEAR POROELASTIC BEHAVIOR OF WOOD
11.00-11.20h: Michaela Zauner, Daniel Keunecke, Federica Marone, Marco Stampanoni & Peter Niemz: SYNCHROTRON BASED TOMOGRAPHIC IN-SITU MICROSCOPY OF WOOD UNDER UNIAXIAL LOAD
11.20-11.40h: Emil Tang Engelund: NUMERICAL MODELLING OF SOFTWOOD TIME-DEPENDENT BEHAVIOUR BASED ON MICROSTRUCTURE

11.40-12.00h: Poster Prize and Closing
12.00-13.00h: Coffee and Cake
13.00-14.30h: Optional Tour through the Institute