Lectures

All lectures will be given in English. Lecture notes will be provided for the participants of the Spring School.

Think-Tank

In addition to the educational purpose, the spring school also aims for the implementation and activation of a network especially among the young researchers in the COST Action. Time for discussions will be allocated to start up the formation of the network and to stimulate knowledge transfer from the lecturers as experienced researchers to the junior scientists.

Registration

Potential participants are kindly asked to inform the Spring School Office about their interest by February 27, 2009, at the latest.

A maximum of 30 participants will be allowed to participate in the Spring School (first come first service in case of more applications).

Participants will be asked for a moderate fee for covering costs for lunches and the get-together.

Spring School Office

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Spring School Venue

The spring school will be held at Vienna University of Technology which is centrally located and within walking distance of Vienna's most impressive sights. It is accessible by public transportation from Vienna International Aiport which provides direct flights to over 170 destination worldwide.

Accommodation

A sufficient number of hotel rooms (hostels, three-star) have been reserved in the vicinity of the spring school venue. Detailed accommodation information is available at the Action's website (http://COST-FP0802.tuwien.ac.at). Participants are asked to make their hotel reservation directly with the hotel by referring to "COST".

Supporting Organisations

- COST - European Cooperation in the field of Scientific and Technical Research
- Vienna University of Technology, Austria

About COST

COST – European Cooperation in the field of Scientific and Technical Research – is one of the longest-running European instruments supporting cooperation among scientists and researchers across Europe. COST is also the first and widest European intergovernmental network for coordination of nationally funded research activities.

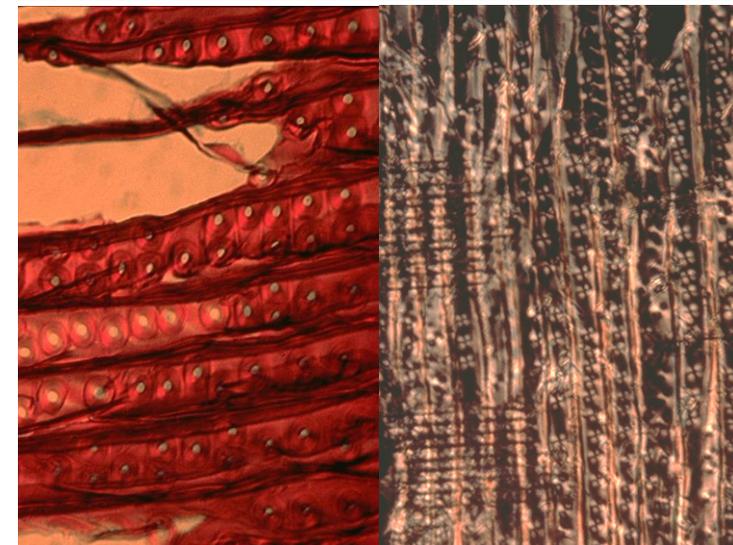More information on COST can be found at the COST website (http://www.cost.esf.org).

COST
www.cost.esf.org

FPS

Action FP0802
Experimental and Computational Micro-Characterization Techniques in Wood Mechanics

http://COST-FP0802.tuwien.ac.at

Spring School
"Wood at the microscale: structural and mechanical fundamentals"

May 7-10, 2009
Vienna, Austria

COST Action FP0802

The main objective of the COST Action FP0802 *"Experimental and Computational Characterisation Techniques in Wood Mechanics"* is to increase the understanding of the wood microstructure and micromechanics by exploring and evaluating emerging techniques in the fields of physics, chemistry, materials, and computer science in order to provide a strong basis for the development of innovative wood-based products in the future and for enhancing the use of the natural resource wood.

Objectives

The spring school aims to provide young scientist with fundamental knowledge on the key topics treated in COST Action FP0802.

These include wood anatomy, basics of mechanics as well as experimental and computational micro-characterization techniques. The gathered knowledge shall help the early stage researchers to follow the scientific presentations at the workshop and in upcoming meetings and and to actively participate in the Action from its very beginning.

The school is mainly geared towards PhD students, but may also be of interest for researchers with a strong background in a single discipline in order to facilitate multi-disciplinary interaction and cooperation.

The spring school shall also contribute to the strengthening of the links both between the early stage researchers and with experienced scientists involved in the COST Action.

Lecturers / Topics

Wood anatomy

John BARNETT (The University of Reading, UK)
Michael GRABNER (Vienna University of Natural Resources and Applied Life Sciences, Austria)

Lectures on the vascular cambium and formation of wood, anatomy of soft- and hardwoods), and variations in anatomy (reaction wood, juvenile and mature wood, sapwood and heartwood).

Solid mechanics

Herbert MANG (Vienna University of Technology, Austria)

Lectures on basic concepts (deformation, stress, strain), fundamentals of elasticity, elasto-plasticity, and visco-elasticity, and beams.

Experimental techniques

Olivier ARNOULD (University of Montpellier 2, France)
Andreas JÄGER (Vienna University of Technology, Austria)
Johannes KONNERTH (Vienna University of Natural Resources and Applied Life Sciences, Austria)

Lectures on Atomic Force Microscopy (AFM) and nanoindendation (NI).

Stephan PUCHEGGER (University of Vienna, Austria)

Lectures on Scanning Acoustic Microscopy (SAM).

Hubert MAIGRE (INSA de Lyon, France)

Lectures on image correlation.

Michaela EDER (MPI of Colloids and Interfaces, Germany)

Lectures on microtensile tests on wood fibers.

Numerical and analytical techniques

Kristofer GAMSTEDT (KTH - Royal Institute of Technology, Sweden)

Lectures on composites micromechanics applied to wood materials.

Karin HOFSTETTER (Vienna University of Technology, Austria)

Lectures on basics of the Finite Element Method and principles of homogenization techniques.

Time Table

	Thursday May 7	Friday May 8	Saturday May 9	Sunday May 10
8:30- 9:20	Wood anatomy John Barnett	Solid mechanics Herbert Mang	Num. anal. techniques Karin Hofstetter	Exp. techniques Michaela Eder
9:20-9:30	Break	Break	Break	Break
9:30-10:20	Wood anatomy John Barnett	Solid mechanics Herbert Mang	Num. anal. techniques Karin Hofstetter	Exp. techniques Hubert Maigre
10:20-10:50	Coffee Break	Coffee Break	Questions	Coffee Break
10:50-11:40	Wood anatomy John Barnett	Solid mechanics Herbert Mang	Coffee Break	Exp. techniques Hubert Maigre
			Exp. techniques Stephan Puchegger	Questions
11:40-11:50	Break	Break	Break	Break
11:50-12:40	Wood anatomy John Barnett	Solid mechanics Herbert Mang	Exp. techniques Stephan Puchegger	Discussion
12:40-13:00	Questions	Questions		
13:00-14:30	Lunch Break	Lunch Break	Lunch Break	Lunch Break
14:30-15:20	Wood anatomy Michael Grabner	Num. anal. techniques Kristofer Gamsted	Exp. techniques Olivier Arnould	
15:20-15:30	Break	Break	Break	
15:30-16:20	Wood anatomy Michael Grabner	Num. anal. techniques Kristofer Gamsted	Exp. techniques Olivier Arnould	
16:20-16:50	Coffee Break	Coffee Break	Coffee Break	
16:50-17:40	Wood anatomy Michael Grabner	Num. anal. techniques Kristofer Gamsted	Exp. techniques A. Jäger, J. Konnerth	
17:40-18:30			Exp. techniques A. Jäger, J. Konnerth	

The spring school will include theoretical lectures as well as practical lessons using experimental and computational facilities available at Vienna University of Technology.