



## Action FP1105 Fact Sheet

# Understanding wood cell wall structure, biopolymer interaction and composition: implications for current products and new material innovation

12.01.2012-30.11.2015

### Parties:

Austria Hungary Poland Sweden Finland Italy Portugal Switzerland Germany Latvia Romania United Kingdom Greece Norway Spain

### Coordination:

Philip Turner & Zurine Hernandez

Edinburgh Napier University

Centre for Plant Science & Bio-polymer Research; Forest Products Research Institute

### Involved from Hamburg University of Technology (TUHH):

Ina Körner

Institute of Waste Water Management and Water Protection, Bioconversion and Emission Control Group (BIEM)

The primary objective of the proposed [Action](#) is to build knowledge and understanding of fundamental physical (self assembly) processes and biological systems (e.g. genetic control) that drive natural structures and biopolymer composition within the plant/wood cell wall and to use new knowledge of self assembly processes to support the development of new biopolymer based materials.

The [Action](#) also aims to quantify the impact of new knowledge on our understanding of the mechanical properties of the cell wall and how processes such as pulping, bleaching recycling, cell wall disintegration methods and ongoing tree improvement and biotechnology programmes impact both positively and negatively on structure and composition of the cell wall. The intent is to explore how this knowledge can be used to support ongoing improvement in these areas of activity. An overarching goal is to develop multidisciplinary competence and capability to support these objectives and to work closely with commercial organisations to promote effective dissemination of knowledge and the development of a more economically sustainable Forest Based Sector.

- *Working Group 1:* Understanding of the structure, biopolymer composition and polymer interactions within the cell wall, what determines these variables and their impact on cell wall properties.
- *Working Group 2:* Fibre processing
- *Working Group 3:* Use knowledge of physical self assembly processes to develop new biopolymer based materials.

*TUHH-BIEM is member in the W.G.-2 in the areas of separation and fractionation as well as recycling.*

