Contract No: COST Action FP1105

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

Duration: 12/01/2012-30/11/2015

Abstract:
The primary objective of the said 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 & 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.
The activities of the Action are organized in three scientific areas: The first one refers to the understanding of cell wall structure, biopolymer composition and polymer
interactions and their impact on cell wall properties. The second one studies the fibre processing while the third one refers to the use of knowledge of physical self assembly processes to develop newbiopolymer based materials.

CHIMAR HELLAS follows the activities of all scientific areas but has special interest in the third scientific area which is closely related to the development of thermosetting polymers from renewable raw materials of natural resources. CHIMAR supports the activities of this Action with studies on the use of bio-polymers from various natural materials, like lignin and tannin as wood adhesives.

Further information on this Action is available at the websites:
http://www.cost.eu/COST_Actions/fps/Actions/FP1105