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Involvement in the COST Action: Member of WG2

Research interest

Development of environmentally friendly, innovative routes in wood consolidation and protection using hybrid inorganic-organic nanostructured materials produced by sol-gel techniques

Specialized technique available in my lab

- Lab equipment for
 - the preparation of inorganic-organic hybrid siloxane materials by the sol-gel process
 - the impregnation of wood with hybrid nanosols for preservation purposes
 - characterization of the obtained wood composites by spectroscopic (IR, Raman, NMR) and microscopic (AFM, SEM, TEM) techniques

Additional comment

The fundamental aim is to develop an innovative treatments of wood for its consolidation and protection against biotic and abiotic decay with minimal or zero- environmental impact. It consists in the application of hybrid inorganic-organic nanosols, in particular containing siloxane moieties, producing an hybrid wood composite, which could also be subjected to thermal treatment. Modern nanotechnology offers the tools for impreganting and modifying wood with active compound (nanosols) at a molecular level, creating strong interactions between wood natural polymers and the artificial eco-compatible nanosols and so minimizing or avoiding leaching and life-cycle problems.

Please indicate your availability and willingness to engage yourself in a study or measurements for other members of the Cost Action FP1006 as part of a collaborative study/project and possibly a common peer review paper.

YES

YES

No