

IRG51 Special Session 2: Surface treatments and characterization

Whenever dealing with protection of solid wood or of wood-based elements, or when studying the processes of wood deterioration due to exposure to biotic or abiotic factors, it is the surface of the object under consideration that must be taken into account at first. This is illustrated well by impregnation of wood with a biocidal formulation, where the surface properties play an important role in the wetting process and influence the penetration depth. Therefore, surface properties of wood have to be known well or better yet tailored to the purpose, and proper surface characterization methods must be selected to get the most relevant surface properties.

There are various wood surface treatment processes available, some of which are well described and utilized, like for instance the most conventional surface finishing with coatings. Others however are less known and their potential in wood protection are vastly underestimated. This is the case also for plasma treatments, which have been under investigation for decades. Despite the benefits that have been clearly demonstrated, the huge potential of plasma applications has neither gained widespread attention nor much industrial exploitation, yet.

The International Research Group on Wood Protection (www.irg-wp.com) is holding a special session on less frequently applied surface treatment processes and characterization techniques during the upcoming annual meeting in Bled, Slovenia. Scientists from all disciplines and industry representatives from all sectors are encouraged to contribute to this special event!

Topics of interest within this session include, but are not limited to:

- Plasma treatments
- Grafting of protective substances onto wood surfaces
- Sol-gel treatments, including deposition of nanoparticles
- Thermo-hydrromechanical surface treatment methods
- Wettability of surfaces and wettability assessment methods
- Surface free energy and methods of its determination
- Microscopic and spectroscopic surface analytical methods
- Zeta potential and adsorption phenomena
- Other items of perspectives

For more information please contact session co-chairs Marko Petric (marko.petric@bf.unio-lj.si) or Holger Militz (Holger.militz@uni-goettingen.de).