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**Involvement in the COST Action: Member of MC, Member of WG1**Research interest

In general: surface coatings (for interior and exterior applications) and their properties, characterisation of surfaces. Specifically, especially in recent years: development of environmentally friendly wood coatings on the basis of liquefied lignocellulosic biomass, development / application of nano particle containing coatings.

Specialized technique available in my lab

## Lab equipment for

- liquefaction of biomass
- preparation of coating formulations (dispenser)
- assessment of the following properties of liquid and/or dried/cured coatings or of other type surfaces: viscosity, content of non-volatile matter, surface tension, density, wet coating film thickness, drying speed, sagging, spreading, contact angle, sorption speed, penetration, dry coating film thickness, adhesion, colour, gloss, hardness, elasticity, resistance to cold liquids, resistance to wet heat, resistance to dry heat, resistance to impact, resistance to wear, resistance to scratching ...
- assessment of ageing of materials and exterior coating materials properties by the light exposure and weathering testing instrument (Xenon-arc light source), natural weathering test, artificial weathering using UV and IR lamps and water, liquid water permeability ...
- preparation of small coated wood samples with various application techniques and coating materials. Different spray finishing technologies (Graco spraying guns) are available: classic air spray (atomisation through air pressure), HVLP (atomisation through high volume but low air pressure), air-assisted (hybrid atomisation combining airless and air spray). Laboratory curtain and roller coaters are used for finishing of plates made of wood or wood based materials. For assessment of a various dry or wet coating film properties hand applicator is suitable.