CELEST Member Short Profile

Norbert Willenbacher

Norbert Willenbacher, since 2005, leads a multidisciplinary group at the Institute for Mechanical Process Engineering and Mechanics (MVM). His research activities include rheology, stability and processing of complex fluids, design of new materials for printed and stetchable electronics, metallization of solar cells, as well as 3D printing of biological materials and porous ceramics or glasses. Prof. Willenbacher is on the advisory board of the German Society of Rheology, an appointed member of the ProcessNet expert committee on rheology, and on the editorial boards of the journals Rheologica Acta, Materials, and Electronic Materials. In the field of energy storage he investigates the processing and coating behavior of slurries for Li-ion battery electrodes as well as adhesion and mechanical strength of dry electrode layers.

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Research areas
His research subjects focus on the contribution of polymeric additives as thickener, dispersing agent, binder and adhesion promotor.

Lab equipment (at MVM, campus south of KIT)
Rotational rheometers, capillary rheometers, CaBER-type extensional rheometer, optical microrheology and particle tracking techniques, material extrusion based 3D printers (DIW and FDM), lab scale slot-die coater, industrial scale screen printer with high speed video imaging system, peel and shear tests, mechanical testing (compression and four-point bending), optical and scanning electron microscopy, ball mill, speedmixer, high power dispersion tools, sintering ovens (up to 1600°C), belt furnace (up to 1000°C).

Norbert Willenbacher @ MVM	Link MVM	Link lab equipment
https://www.mvm.kit.edu/english/Mitarbeiter_MVM_willenbacher.php	https://www.mvm.kit.edu/english/286.php	https://www.mvm.kit.edu/english/697.php