

Multiscale-Effects in Mechanics under Uncertainty Considerations

19 September 2022; 9:00 – 14:00 Uhr

Agenda

8:30 – 9:00	Welcome Coffee
9:00 – 9:10	<i>Welcome and Introductions</i>
9:10 – 9:30	Stochastic homogenization and uncertainty quantification for lifetime prediction of metal foams <i>Carsten Proppe (KIT-ITM)</i>
9:30 – 9:50	Model Hierarchies and Probability Boxes in Structural Reliability Analysis <i>Jonas Kaupp (KIT-ITM)</i>
9:50 – 10:10	Modeling and simulation in tribology across scales <i>Lukas Julian Oestlinger (KIT-ITM)</i>
Break (10')	
10:20 – 10:40	The data-model cycle: from uncertainty quantification to multiscale effects and back <i>Sebastian Krumscheid (RWTH Aachen)</i>
10:40 – 11:00	The Bayesian perspective to uncertainty quantification <i>Mathias Trabs (KIT-STOCH)</i>
11:00 – 11:20	Stochastic kinetic schemes for uncertainty propagation in multi-scale particle transport <i>Tianbai Xiao (KIT-IANM)</i>
Break (10')	
11:30 – 11:50	Probabilistic methods in material mechanics of microheterogeneous media <i>Jörg Hohe (Fraunhofer IWM)</i>
11:50 – 12:10	Multiscale probabilistic simulation chain for continuous modelling of fiber-reinforced injection-molded components <i>Luise Kärger, (KIT-FAST)</i>
12:10 – 12:30	Probabilistic virtual process chain for process-induced uncertainties in fiber-reinforced composites <i>Nils Meyer (KIT-FAST), Johannes Görthofer (KIT-ITM), Sebastian Gajek (KIT-ITM)</i>
Discussions over Lunch Break (60')	
13:30 – 14:00	<i>Next Steps</i>