

## WG Manufacturing Process Simulation

CU Theme Day „AI & Digitalization in Process Simulation“

at Technology Centre Augsburg (TZA) (Am Technologiezentrum 5, 86159 Augsburg) on 25 February 2026

Moderation:

- Prof. Dr.-ing. Mathias HARTMANN (Technische Hochschule Deggendorf)
- Dr. Ir. Johannes Mattheus BALVERS (AIRBUS Helicopters)

### Agenda

10:00	<b>Welcome, News from Composites United e.V., Objectives of the Day</b> Mathias HARTMANN & Jordy BALVERS Stefan STEINACKER, Composites United e.V.
10:10	<b>KEYNOTE: Differentiable Simulations for Composite Optimization</b> Nils MEYER, Juniorprofessur Data-Driven Product Engineering and Design at MRM, Universität Augsburg
10:55	<b>Machine Learning Algorithms for a Complex Draping Process</b> Jan SEIFFERT, Chair of Carbon Composites at Technical University of Munich (TUM-LCC)
11:20	<b>Coffee Break</b>
11:40	<b>Physics-Informed Graph Neural Networks for Structural and Manufacturing Process Simulations on Arbitrary Geometries</b> Tobias WÜRTH, Karlsruhe Institute of Technology (KIT)
12:05	<b>Application of Physics Informed Neural Networks &amp; Overview of ML4SIM Project</b> Miro DUHOVIC, Leibniz-Institut für Verbundwerkstoffe (IVW)
12:30	<b>Machine Learning for Predicting Flow Velocity Fields in Large 3D Fibrous Microstructures</b> Stefano CASSOLA, Leibniz-Institut für Verbundwerkstoffe (IVW)
12:55	<b>Lunch Break</b>
13:40	<b>Surrogate Modelling with Artificial Neural Networks in Composite Manufacturing Processes</b> David DROSTE, Faserinstitut Bremen e.V. (FIBRE)
14:05	<b>Deep Learning-Based Flow Front Detection for In-Plane 1D Permeability Measurement</b> Xiaohui Zhang, Clausthal University of Technology
14:30	<b>Fast Approximation of Warpage in Fiber-reinforced Injection Moulding with Differentiable FEM</b> Julian GREIF, Institute for Materials Resource Management (MRM at University of Augsburg)
14:55	<b>IGF Project Idea: Inline Impregnation Monitoring in Filament Winding</b> Marvin WOLF, Leibniz-Institut für Verbundwerkstoffe (IVW)
15:20	<b>Wrap-up &amp; Conclusion</b>
15:30	<b>End of the Event</b>