

# MSE 2024

24 - 26 Sep 2024 (Darmstadt)

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## D: Digital Transformation

The digital transformation era marks a paradigm shift impacting numerous engineering fields including mobility, communication, security, and health. This topic explores the depths of how digitalization is intricately woven into Material Science and Engineering (MSE), influencing designs and predictive simulations, while paving the way for new opportunities and challenges. Material innovations form the bedrock of progress, with significant implications on economic and scientific landscapes. This symposium invites thinkers, professionals, and innovators to shape the future, leveraging digital empowerment for material advancements. Engage in deep conversations, explore case studies, and foster collaborations that aim to steer the direction of innovation in MSE.

### Topic coordinator



Prof. Dr. Chris Eberl  
Fraunhofer Institute for Mechanics of Mater...



Dr. rer. nat. Tilmann Hickel  
Max-Planck-Institut für Eisenforschung GmbH



Prof. Dr. Martina Zimmermann  
Fraunhofer Institute for Material and Beam ...

#### D01: Navigating the Digital Revolution in Material Science and Engineering - General Symposium Topic D

Prof. Dr. Chris Eberl (Fraunhofer Institute for Mechanics of Materials IWM), Dr. rer. nat. Tilmann Hickel (Max-Planck-Institut für Eisenforschung GmbH), Prof. Dr. Martina Zimmermann (Fraunhofer Institute for Material and Beam Technology IWS Dresden)

#### D02: Digital Transformation in Everyday Laboratory Life

Prof. Dr.-Ing. Birgit Skrotzki (Bundesanstalt für Materialforschung und -prüfung (BAM)), Prof. Dr. Martina Zimmermann (Fraunhofer Institute for Material and Beam Technology IWS Dresden)

#### D03: Digital Materials: Experiments, simulation workflows, ontologies, and interoperability

Univ.-Prof. Dr.-Ing. Tilmann Beck (RPTU Kaiserslautern-Landau), Dr. Gerhard Goldbeck (Goldbeck Consulting Ltd), Dr. rer. nat. Tilmann Hickel (Max-Planck-Institut für Eisenforschung GmbH)

#### D04: AI in Materials Processing

Dr. Kiran Gulia (University of Wolverhampton), Prof. Dr. Christian Kapteyn (SRH Campus Hamburg)

#### D05: Digital Circular Economy - Platforms, Models and Algorithms

Thomas Bjarsch (Fraunhofer IGCV), Maximilian Holland (Fraunhofer Research Institution for Casting, Composite and Processing Technology IGCV), Frank Manis (Fraunhofer Research Institution for Casting, Composite and Processing Technology IGCV)

#### D06: Materials Science in the Era of Digital Transformation and Machine Learning

Dr.-Ing. Katrin Bugelnig (German Aerospace Center (DLR)), Univ.-Prof. Dr. techn. Guillermo Requena (German Aerospace Center (DLR)), Tobias Strohmann (German Aerospace Center (DLR)), Dr.-Ing. Anastasiya Tönjes (Leibniz Institute for Materials Engineering - IWT)

