

# MSE 2024

24 - 26 Sep 2024 (Darmstadt)  
dgm.de

## F: Functional Materials, Surfaces and Devices

As we traverse into an era of unprecedented technological advancements, the topic of functional materials, surfaces, and devices emerges as a focal point of research and development. This comprehensive discussion encapsulates recent developments on nano- and microstructured surfaces and materials utilized in various sectors including energy conversion, water treatment, and transportation. Delve into the complexities of catalysts, shape memory alloys, ferroelectric, and multiferroic materials. This topic is a wellspring of innovation and knowledge, fostering dialogues that are poised to shape the future of materials science.

### Topic coordinator



Prof. Dr. Antonio Ancona  
University West



Prof. Dr. Carsten Gachot  
TU Wien



Prof. Dr.-Ing. Andrés Fabián Lasagni  
TU Dresden

#### F01: Future Frontiers - Innovations in Functional Materials & Devices - General Symposium Topic F

Prof. Dr. Antonio Ancona (University West), Prof. Dr. Carsten Gachot (TU Wien), Prof. Dr.-Ing. Andrés Fabián Lasagni (TU Dresden)

#### F02: High Performance Materials for Sustainable Energy Applications

Daniel Benitez (Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)), Mathieu Boidot (Commissariat à l'énergie atomique et aux énergies alternatives (CEA)), Dr.-Ing. Frederike Brasche (RWTH Aachen University), Prof. Dr.-Ing. habil. Ulrich Krupp (RWTH Aachen University), Fernando Santos (AZTERLAN Aliendalde Auzunea n<sup>o</sup>6)

#### F03: Cellular materials and mechanical metamaterials

Angelika Gedsun (University of Freiburg), Max Mylo (University of Freiburg), Dr. Viacheslav Slesarenko (University of Freiburg), Prof. Dr. Ulrike G.K. Wegst (Dartmouth College), Dr. Kaiyang Yin (University of Freiburg)

#### F04: Photonic Technologies for Surface Processing

Prof. Dr. Antonio Ancona (University of Bari), Dr. Robert Baumann (TU Dresden), Prof. Dr.-Ing. Andrés Fabián Lasagni (TU Dresden), Dr. Gediminas Raciukaitis (Center for Physical Sciences and Technology FTMC), Prof. Dr. Gert-willem Römer (University of Twente), Dr. Marcos Soldera (TU Dresden), Dr. Bogdan Voisiat (TU Dresden), Dr.-Ing. Christoph Zwahr (TU Dresden)

#### F05: Multi-Functional High Entropy Alloys

Prof. Dr. Oliver Gutfleisch (Technische Universität Darmstadt), Dr.-Ing. Liuliu Han (Max-Planck-Institut für Eisenforschung GmbH), Prof. Dr. Alfred Ludwig (Ruhr-Universität Bochum)

#### F06: Piezoelectric Oxides

Prof. Dr. Holger Fritze (Technische Universität Clausthal), Dr. Jutta Schwarzkopf (Leibniz-Institut für Kristallzüchtung)

#### F07: Data-driven and Machine Learning assisted materials research

Dr. Leopoldo Molina-Luna (Technische Universität Darmstadt), Prof. Dr. Bai-Xiang Xu (Technische Universität Darmstadt), Prof. Dr. Hongbin Zhang (Technische Universität Darmstadt)

#### F08: Inorganic and organically modified thin-film protective coatings - properties and applications

Dr.-Ing. Justyna Krzak (Wroclaw University of Science and Technology), Prof. Wojciech Simka (Silesian University of Technology), Dr. Marek Smaga (RPTU Kaiserslautern-Landau)

#### F09: Advances in Thermoelectricity: From Sustainable Materials to Energy Harvesting Devices

Dr. Pascal Boulet (Aix-Marseille University), Prof. Dr. Marie-Christine Record (Aix-Marseille University), Dr. Heiko Reith (Leibniz Institute for Solid State and Materials Research Dresden)

#### F10: 3D Structural Design of Functional Materials for Smart Applications

Dr. Henrique Vazão de Almeida (NOVA School of Science & Technology), Dr. Sumita Goswami (AlmaScience CoLAB), Dr. Suman Nandy (UNINOVA)

#### F11: Dealloying as processing tool for the synthesis and recycling of advanced materials

Prof. Dr. Soo-Hyun Joo (Dankook University), Prof. Dr.-Ing. Ilya Okulov (Leibniz Institute for Materials Engineering - IWT), Prof. Dr.-Ing. Shan Shi (Hamburg University of Technology)

#### F12: Emerging chalcogenides materials for electronic-based applications

Dr. Pascal Boulet (Aix-Marseille University), Prof. Dr. Marie-Christine Record (Aix-Marseille University)

#### F13: Advancements in Interface Characterization for Batteries

Dr.-Ing. Raheleh Azmi (Uppsala University)

#### F14: Thin Films and Multilayer Coatings for Functional Applications

Dr. José Luis Garcia (Sandvik Coromant R&D), Prof. Dr. Haroldo Pinto (University of Sao Paulo - USP), Dr.-Ing. Flavio Soldera (Saarland University)

#### F15: High-performance magnetic materials

Prof. Dr. Carlo Burkhardt (Pforzheim University), Prof. Dr. Dagmar Goll (Aalen University of Applied Sciences - Technology and Economics), Prof. Dr. Oliver Gutfleisch (Technische Universität Darmstadt), Prof. Dr. Spomenka Kobe (Jožef Stefan Institute), Prof. Dr. Gerhard Schneider (Aalen University of Applied Sciences - Technology and Economics)

