UNIVERSITÄT DES SAARLANDES

Functional Materials

EEIGM

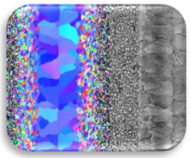
The **Chair of Functional Materials** deals with the development of methods for 3D imaging and quantitative analysis of microstructures, in particular FIB tomography and Atom Probe Tomography. It has vast experience in the structuring of metallic, polymer and ceramic materials with laser techniques, specially with direct laser interference patterning. Finally new materials are developed, specially for electrical applications and energetic materials.

Contact:

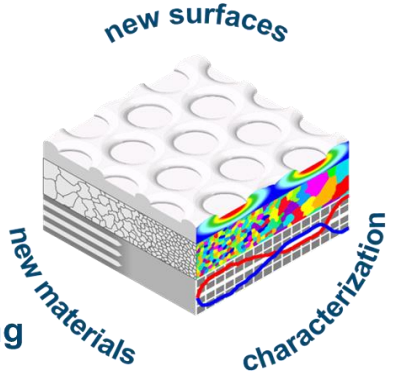
Frank Mücklich
Director of the institute
Teaching: Introduction to Materials Science, Functional Materials, Diffraction Methods, 3D-Analysis of Microstructures

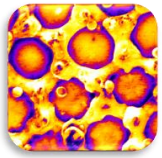
Flavio Soldera
European School of Materials, International Cooperation

Surface Engineering



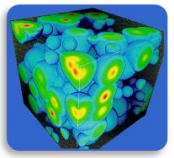
- Pulsed Lasers (ns-ps-fs)
- Direct Laser Interference Patterning
- Laser Cladding
- Tribology
- Anti-microbial surfaces





Materials Engineering

- Steel & and Cast Iron;
- Al & Cu Alloys;
- Carbon Related Materials;
- Energetic Materials,
- Electrical contacts / connectors



3D Microstructure Research

- Tomography: micro-nano-atomic scale
- Microstructure classification
- Quantitative image analysis
- Advanced metallography

Further teachers involved in EEIGM

Michael Engstler
Teaching: 3D-Analysis of Microstructures

Jenifer Barrirero
Teaching: Functional Materials

Phillip Grützmacher
Teaching: Laser processing

Sebastian Suarez
Teaching: Functional Materials

Christoph Pauly
Teaching: Diffraction methods

Sebastian Slawik
Teaching: Laser processing