

Dear members of the Materials Chain,

In 2017 the focus programme Materials Chain will continue to establish a joint platform for coordinating and strengthening research in materials science at the three UA Ruhr universities. We will set up Research HUBs as centers of competence for bringing together the expertise in the UAR in particular areas that are vital for the Materials Chain, such as Functional and Structural Characterization; Modelling and Simulation; Production engineering; and Processing and Synthesis of materials. The Research HUBs will concentrate on topics like adaptive materials; energy conversion and storage; interfaces; high-performance materials for harsh environments and materials for communication technology and quantum computing.

Two new collaborative research centers with participation of Materials Chain researchers have been funded at the end of 2016. The CRC/Transregio "Damage Controlled Forming Processes" is hosted at the TU Dortmund and the CRC/Transregio "Mobile Material Characterisation and Localisation by Electromagnetic Sensing" at the University of Duisburg-Essen. The latter is a collaboration with Ruhr-Universität Bochum. Further information about the two CRCs can be found below. Congratulations to the speakers Erman Tekkaya, Thomas Kaiser and Ilona Rolfes and the involved researchers!

At the end of 2016 a letter of intend for a joint cluster of excellence "Materials Chain Ruhr" was submitted to the DFG. The initiative is coordinated by G. Eggeler, C. Schulz and E. Tekkaya and is the only joint proposal of all three UA Ruhr universities. The proposal for the first submission stage of the proposal is due in April.

We welcome 8 new members since our last info mail in October. Their names and links to personal websites can be found below.

We look forward to a productive and successful year 2017.

Kind regards

Ralf Drautz, Jörg Schröder und Wolfgang Tillmann

UPCOMING Events

19.01.2017

Drug Delivery via Cell Membrane Fusion using Lipopeptide Modified Liposomes

ORGANISCH-CHEMISCHES KOLLOQUIUM

Universität Duisburg-Essen

23.01.2017

Iron-Based Superconductors on Topological Insulators investigated by Spin-Resolved Scanning Tunneling Spectroscopy

PHYSIKALISCHES KOLLOQUIUM

Ruhr-Universität Bochum

23.01.2017

Omics Technologies, Food and Health: Foodomics

ANALYTISCH-CHEMISCHES KOLLOQUIUM

Universität Duisburg-Essen

24.01.2017

Power-to-Gas als Flexibilitätsoption im zukünftigen Energiesystem

ÖFFENTLICHES KOLLOQUIUM,

Universität Duisburg-Essen

26th January 2017

Selective Electron Beam Melting: A powder bed based additive manufacturing technology for high performance alloys

ICAMS-IFM SEMINAR

Ruhr-Universität Bochum

More...

New members

Reza Darvishi Kamachali, ICAMS, Ruhr-Universität Bochum

Hamad ul Hassan, ICAMS, Ruhr-Universität Bochum

Marina Knyazeva, Materials test engineering, TU Dortmund University

Guillaume Laplanche, Institute for Materials, Ruhr-Universität Bochum

Arne Ludwig, Applied solid state physics, Ruhr-Universität Bochum

Karina Morgenstern, Physical chemistry I, Ruhr-Universität Bochum

Matous Mrovec, ICAMS, Ruhr-Universität Bochum

Ilona Rolfes, Institute of Microwave Systems Ruhr-Universität Bochum

New Projects

SFB/Transregio 188

Damage Controlled Forming Processes

The CRC/Transregio 188 is a joint long-term research project with participation of RWTH Aachen, BTU Cottbus-Senftenberg, TU Dortmund University and the Max-Planck-Institut für Eisenforschung. The overall objective is to investigate damage nucleation and evolution in hot and cold forming on multi-process and multi-scale level by merging of competences in the areas of forming technology (A-projects), materials science (B-projects) and mechanical material modeling (C-projects). Strategies are developed to permanently improve the performance of components produced by shaping technology by adjustment of damage profiles through optimization of load paths.



SCHÄDIGUNGSKONTROLLIERTE
UMFORMPROZESSE

Contact:
Erman Tekkaya, TU Dortmund

SFB/Transregio 196

Mobile Material Characterisation and Localisation by Electromagnetic Sensing

The aim of the CRC/Transregio is to trial new approaches to mobile material detectors. This would enable the material properties of any object to be determined, even if it were concealed behind a wall, making it possible to locate unconscious persons in a building filled with smoke or contaminated with poisonous gases, or to detect burning cables inside walls, for example. To achieve this it is necessary to develop mobile detectors that record data in a frequency range from several gigahertz to terahertz, which can be used to precisely localise and characterise a complex environment.

Contact:
Thomas Kaiser, UDE
Ilona Rolfes, RUB

Workshops and Conferences

Modelling and Simulation of Superalloys

International workshop and hands-on tutorials

This workshop will give an overview of recent progress in modelling and simulation of materials for superalloys, with a focus on single crystal Ni-base and Co-base alloys.

[Conference Website](#)



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