MATERIALS CHAIN
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Latest News

Materials that Cool, Control, Store

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Movement or temperature changes can be converted into electrical current, ferroelectric materials can do that and more. Optimizing them is the goal of Dr. Anna Grünebohm's new Emmy Noether junior research group at the Interdisciplinary Centre for Materials Simulation (ICAMS) at the RUB. The group "Scale-bridging computational design of multifunctional ferroelectric composites" has been funded by the German Research Foundation (DFG) with over 1.3 million euros for six years since May 1, 2019. Two doctoral positions are currently advertised.
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The Quest for the Dream Reaction

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While politicians are struggling for mandatory solutions to limit carbon dioxide (CO_2) emissions, Dr Corina Andronescu is researching a complementary solution – the electrochemical conversion of CO_2 into usable fuels such as methanol, called "Dream Reaction". In December, she was appointed junior professor for electrochemical catalysis at the University of Duisburg-Essen (UDE).
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The Printed Nanolayer

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Solar and fuel cells, LEDs, batteries – many sustainable technologies already contain nanoparticles. But still there are hardly any scalable processes for the production in industrial dimensions. That’s what Prof. Dr. Doris Segets wants to change. She took up the professorship for “Process Engineering of Electrochemical Functional Materials” at the University of Duisburg-Essen (UDE). Already, she has been appointed to the board of directors of the NanoEnergieTechnikZentrum (NETZ).
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New/Coordinated Projects

The Chemistry is Right


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The University Alliance Ruhr (UA Ruhr) continues to grow together: Prof. Dr. Malte Behrens will teach and conduct research at the University of Duisburg-Essen (UDE) and at Ruhr-University Bochum (RUB) over the next four years as UA Ruhr Professor for Material Chemistry of Catalysts.
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Developing a Platform for Research on Catalysis


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During the kick-off meeting of the Collaborative Research Centre / Transregio (CRC TRR) 247 on December 4th and 5th at the NanoEnergieTechnikZentrum NETZ, the scientists were already willing to dig in: 74 researchers – from group leaders to young scientists – presented their first results on different catalytic material systems.
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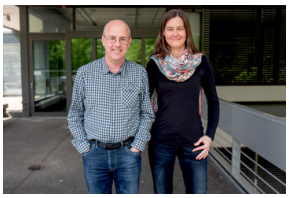
Calculating the Internal Structure of Metals


© RUB, Kramer

The microstructure of metals influences properties such as the durability and formability of materials. A special role is played by grain boundaries at which material areas of different spatial orientation adjoin each other. By mathematically modelling the processes at these grain boundaries, a research team at the Ruhr University Bochum (RUB) aims to contribute to the faster optimisation of materials. The German Research Foundation is funding the project "Efficient sampling and parametrization of the grain boundary geometry and composition space: atomistic simulation meets statistical methodology" at the Chair of Stochastics of the Faculty of Mathematics and at the Interdisciplinary Centre for Advanced Materials Simulation (ICAMS) with approximately 600,000 euros for three years.
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Awards (Congratulation!)

Hume Rothery Prize 2019 awarded to Suzana G. Fries


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The Institute of Materials, Minerals and Mining (IOM3) has awarded the 2019 Hume Rothery Prize to ICAMS group leader Suzana G. Fries. The prize is awarded in recognition of distinguished achievements concerned with phase relationships in metallic materials or non-metallic materials of metallurgical interest. For further information, please visit the IOM3 website.
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New Members

Corina Andronescu, Technical Chemistry III, UDE

Manfred Bayer, Experimental Physics II, TU Do

Jörg Debus, Experimental Physics II, TU Do

Christoph Held, Thermodynamics, TU Do

Doris Segets, Institute for Combustion and Gas Dynamics - Reactive Fluids, UDE

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