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**HoMMage**



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*Offen im Denken*

**Hysteresis Design of Magnetic Materials for Efficient Energy Conversion**

**Tuesday, 20 Oct. 2020, 9:00 s.t., TU Darmstadt, Zoom (s. below)**



**Prof. Dr. Martin Aeschlimann**

**Department of Physics,  
Experimental Physics**

**University of Kaiserslautern, Germany**

## **Spin in its collective environment**

For spintronics devices in general, reducing size, increasing speed and lowering power consumption are key aims. These challenges pertain not only to conventional information technology (IT) devices but to many technologies in the 21st century. To unlock the full potential of spin, one must attain a new level by unleashing the full power of the quantum entity spin. Because of the inherent weakness of most microscopic magnetic interactions, up to now applications of spin have always relied on large ensembles of many spins, acting in unison as classical macro-spins. It is the individual quantum spin, however, which is the smallest possible information carrier, and the smallest possible sensor. Yet, microscopic control over spin can have large-scale effects.

It is the aim of our DFG Transregional Research Center 173 *Spin+X* to explore and realize the potential of such complex (primarily electron) spin phenomena which are based on elementary spin interactions. Our motivation is driven by the desire to better understand and explore the key effects of collective spin phenomena based on two very basic interactions: spin-spin and spin-orbit.

After a brief overview of research activities within *Spin+X*, selected examples of collaborative efforts on energy and spin transfer dynamics across metal-organic hybrid interfaces, and spin dynamics on a fs time-scale in general, will be presented.

**Zoom information:**

**Meeting-ID: 814 7665 9971**

**Password: 366363**

**CRC/TRR 270 • Technische Universität Darmstadt and Universität Duisburg-Essen  
Spokesperson: Prof. Dr. Oliver Gutfleisch • Co-Spokesperson: Prof. Dr. Michael Farle  
Management: Dr. Sonja Laubach • L2|07 110 • laubach@tu-darmstadt.de • +49 (0)6151 16-22153  
Address: CRC/TRR 270 • TU Darmstadt • Alarich-Weiss-Str. 16 • 64287 Darmstadt**