

UniSysCat Colloquium

Prof. Dr. Elizabeth von Hauff

University of Amsterdam

Start Time: Wednesday, May 8, 2019 05:15 pm

End Time: Wednesday, May 8, 2019 06:45 pm

Chemistry Building, C 264

Technische Universität Berlin, Straße des 17. Juni 115, 10623 Berlin

Organic and hybrid photovoltaics: Electrical transport, material interfaces, and dynamics

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Organic and hybrid semiconductors offer many advantages for energy conversion, saving and storage applications. In particular, the tunable optical absorption, possibility for flexible processing and upscaling, and potential for integration into new applications make organic semiconductors and metal-halide perovskites interesting candidates for solar energy. However performance losses related to poor electrical properties and non-optimized device interfaces currently limit the application potential. In this talk I will discuss our work on studying and mitigating fundamental losses in organic and perovskite photovoltaics with tailored interfaces and optimized device architectures. I will give an overview on how we apply impedance spectroscopy as a diagnostic tool for the in-situ investigation of material properties and losses in increasingly complex solar cell architectures, and the potential for developing new approaches in impedance spectroscopy that go beyond the current applications. As an outlook, I will present recent work on new insights into the role of dynamics on photovoltaic energy conversion.

Prof. Dr. Matthias Drieß

Organizer

