



# UniCat Colloquium

**PROF. DR. CARSTEN STREB**

Ulm University

## *Molecular metal chalcogenides for energy conversion and storage*

Molecular metal chalcogenides (i.e. oxides and sulfides) combine the advantages of their solid-state analogues with the chemical tunability of molecular species. Their use in photochemical and electrochemical energy conversion and storage can open new paths for the knowledge-based design of advanced reactive materials. Here, we will discuss how molecular metal oxide clusters can be used as high-performance water oxidation catalysts in light-driven and electrochemical water oxidation. Further, molecular metal sulfides will be introduced as highly active hydrogen evolution catalysts under homogeneous conditions. Mechanistic studies will shed light on reaction mechanisms and catalyst deactivation, leading to initial suggestions for catalyst stabilization and in situ repair. Finally, catalyst integration into heterogeneous functional substrates such as electrodes is discussed as a means of bridging homogeneous and heterogeneous catalysis.

**Wednesday, April 04, 2018 at 5:15 PM**

TU Berlin, Institute of Chemistry  
Straße des 17. Juni 115, 10623 Berlin

Building C, Lecture Hall **C 264**

**Prof. Dr. Driess (TUB)**

Organizer

Coffee and cake will be served 30 minutes before the lecture. Guests are cordially invited to attend!  
Prof. Dr. Matthias Driess - Chair of the Cluster of Excellence UniCat - [www.unicat.tu-berlin.de](http://www.unicat.tu-berlin.de)



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