

## Einladung zum Kolloquium

Am Mittwoch, dem 21. Juni 2017, 17:00 Uhr, spricht

**Herr Prof. Dr. Klaus Stöwe**

Technische Universität Chemnitz

zum Thema:

### **“Heterogeneous Catalysis meets Solid State Chemistry: High-Throughput Discovery and Optimization of Catalysts for Energy & Environmental Applications”**

The world and thus our environment is continuously changing with technological progress and increasing entitlement mentality. Together with an ever growing global population the extensive usage of fossil resources as energy and chemical feedstock generates a massively accruing demand for exhaust gas treatment systems for combustion engines as well as alternative regenerative or bio-based resources. Many of these processes are either chemical transformations or conversions of chemical in electrical energy and vice versa, the latter especially in energy storage applications as batteries, fuel cells or Power-to-Gas (PtG) technology. The majority of these processes are heterogeneously catalysed offering a broad research field for discovery of new and optimisation of already existent catalysts. Most effectively and reproducibly these processes are performed via High-Throughput Technologies (HTT) and Combinatorial Chemistry (CC) approaches. Fields of application to be reported are catalysts for soot combustion in Diesel particle filters (DPF), removal of nitrous gases of Diesel engines through the selective catalytic reduction with ammonia (NH<sub>3</sub>-SCR), reduction of methane slip from gas fuelled lean burn engines, synthesis gas generation catalysts via combined steam and carbon dioxide reforming of methane (CSCDRM), screening of new electro-catalysts for fuel cell applications or the search for alternative support materials for electro-catalysts in membrane-electrode assemblies (MEA). A deep understanding of the catalyst activity and the parameters specifically influencing the geometrical environment of the active sites as synthesis variables or chemical composition can only be achieved by considering principles of solid state chemistry. Thus, extensive reflections on crystal structures, defect chemistry and nonstoichiometry are the outcomes of design approaches for new heterogeneous catalysts.

**Ort:** Fakultät für Chemie und Mineralogie, Johannisallee 29, kl. HS 015, 04103 Leipzig

**Alle Interessenten sind zu diesem Vortrag herzlich eingeladen.**

Die Professoren des Institutes  
Für Anorganische Chemie

Die Professoren des Institutes  
für Technische Chemie

Nähere Informationen bei Herrn Prof. Dr. Holger Kohlmann, Tel.: 36201 und Herrn Prof. Dr. Roger Gläser, Tel. 36301