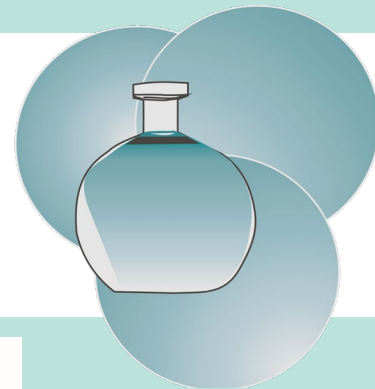


Fakultät für Naturwissenschaften  
**Institut für Chemie**



lädt ein

gemeinsam mit der Gesellschaft  
Deutscher Chemiker  
zum



**Vortrag**  
von Herrn

**Prof. Peter  
Strasser**

Institut für Chemie  
**Technische  
Universität Berlin**

**"Electrocatalytic  
Materials and  
Interfaces  
for the production of e-  
Fuels and e-Chemicals"**

am: 02. Mai 2024  
um: 16:00 Uhr  
WO: im Raum 1/232

Die kleine Kaffeerrunde vor dem Vortrag beginnt  
um 15:30 Uhr im Raum 1/232.

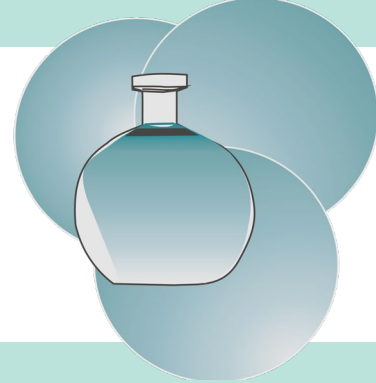
Das Mitbringen von eigenen Trinkgefäßen ist  
erwünscht.

Gäste sind herzlich willkommen!



TECHNISCHE UNIVERSITÄT  
IN DER KULTURHAUPTSTADT EUROPAS  
CHEMNITZ

Prof. Dr. Michael Sommer  
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# Prof. Peter Strasser

Institut für Chemie  
**Technische Universität  
Berlin**



**GDCh**  
GESELLSCHAFT  
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## **Electrocatalytic Materials and Interfaces for the production of e-Fuels and e-Chemicals**

**Abstract:** The rising share of renewable electricity is testament to the increasing importance of solar/wind-electric routes to harvest sunlight in form of free electrons. While some electricity is used directly or stored capacitively, an increasing portion calls for direct conversion into valuable chemical energy carrier (solar fuels or chemicals). This conversion in the dark is made possible by heterogeneous electrocatalysis on the surface of solid electrodes. More fundamental understanding of the origin of kinetic barriers alongside with more control of transport processes of charge and mass are needed for the design of efficient, tailor-made electrochemical interfaces and devices for the production of fuels and chemicals.

In this presentation, I will report on some of our recent advances in the design and understanding of electrocatalytic materials, interfaces and devices relevant to the electrochemical activation and conversion of small molecules into value-added molecular compounds using renewable power. New insights in the synthesis, geometric and electronic structure and the associated catalytic reactivity and selectivity were achieved using in-situ/operando X-ray spectroscopic, microscopic, scattering or spectrometric techniques. Focus will be placed on small molecules such as oxygen, water, CO<sub>2</sub>, NO<sub>x</sub>, for the electrochemical production of e-fuels and e-chemicals.



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