

EINLADUNG

zum Vortrag
von

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**Synthesis and Characterization of (Mixed) First Row-Transition
Metal Oxides as Anodic Catalysts in Water Electrolysis**

am

Mittwoch, 14. Dezember 2016 um 16:00 Uhr

Technische Universität Wien, Hoftrakt
BD - Hoftrakt, Seminarraum BD 02, 2.OG
1060 Wien, Getreidemarkt 9

Abstract:

Mixed metal oxides based on Mn, Fe, Co and Ni exhibit interesting activity for the electro-catalytic oxidation of water (oxygen evolution reaction, OER), which typically is the kinetic bottle-neck of hydrogen production by water electrolysis in alkaline medium. The interplay of composition, crystallographic phase, particle size and shape and their effect on the overpotential is complex and in many cases not well understood. Based on mixed spinel oxides AB_2O_4 containing the above-mentioned cations, comparative studies can help to shed light on the under-lying structure-function relationships. In addition to the composition, also the particle morphology can be investigated by comparing, e.g., samples from colloidal synthesis routes and co-precipitation. In my presentation, I will present experimental data with a focus on Mn- and Co-based materials showing how the catalytic performance can be influenced by isomorphous cation substitution and selected synthesis parameters. Furthermore, the OER activity will be compared to other oxidation reactions with the aim find common trends that might allow drawing conclusion on the catalytically active phases.

FWF SFB F45 „Functional Oxide Surfaces and Interfaces (FOXSI)“

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