

Final SFB FOXSI Conference, December 04-06, 2019
TUtheSky Lounge, TU Vienna

Wednesday, December 4th, 2019

- 09:00 – 09:15 **Günther Rupprechter** Opening
- 09:15 – 09:30 Sabine Seidler (Rector TU Wien, AT)
Welcome Address
- 09:30 – 10:30 **Geoff Thornton** (University College London, UK) INV1
Hopping, recombination dynamics and interface interactions of
surface polarons on TiO₂
- 10:30 – 11:00 **COFFEE BREAK**
- 11:00 – 11:30 **Michael Schmid** (TU Wien)
Reducing and oxidizing zirconia thin films
- 11:30 – 12:00 **Yuri Suchorski** (TU Wien)
Kinetic instabilities in H₂ oxidation on Rh: mesoscale versus nanoscale
- 12:00 – 13:30 **BREAK**
- 13:30 – 14:30 **Notker Rösch** (Technische Universität München, DE) INV2
Mixed-metal oxides for selective hydrocarbon oxidation:
A computational perspective on complex materials
- 14:30 – 15:00 **Günther Rupprechter** (TU Wien)
From ultrathin ZrO₂ films to perovskite nanomaterials
- 15:00 – 15:30 **COFFEE BREAK (CONFERENCE FOTO)**
- 15:30 – 16:00 **Bernhard Klötzer** (University Innsbruck)
How to mobilize and convert carbon - possible approaches
toward better dry reforming catalysts
- 16:00 – 16:30 **Josef Redinger** (TU Wien)
Theory of oxide surfaces and metal/oxide interfaces:
Adsorption on ZrO₂ films and bulk surfaces
- 16:30 – 17:00 **Ulrike Diebold** (TU Wien) FOXSI:
9 Years of surface science on perovskite oxides.
What we have learned, and where it could lead
- 19:00 – 22:00 **RECEPTION (11th floor)**

Thursday, December 5th, 2019

- 09:15 – 10:15 **Ulrich Kaspar Heiz** (Technical University München, DE) INV3
Clusters in Photo- and Asymmetric Catalysis
- 10:15 – 10:45 **Andreas Stierle** (University Hamburg and DESY, DE)
Adsorption of formic acid on Fe₃O₄(111)
- 10:45 – 11:15 **COFFEE BREAK**
- 11:15 – 11:45 **Kevin Ploner** (University Innsbruck)
The versatility of ZrO₂ in Cu-based catalysts in methanol steam reforming
- 11:45 – 12:15 **Jürgen Fleig** (TU Wien)
Steps towards a mechanistic understanding of oxygen exchange on perovskite-type oxides
- 12:00 – 13:30 **BREAK**
- 13:30 – 14:30 **Stefan Vajda** (J.Heyrovský Institute, Prague, CZ) INV4
Catalysis by size- and composition-selected subnanometer clusters
- 14:30 – 15:00 **Michele Riva** (TU Wien)
Perovskite surfaces and their reactivity to oxygen:
An atomic-scale view
- 15:00 – 15:30 **Karin Föttinger** (TU Wien)
Operando spectroscopy of AuAg selective oxidation catalysts
- 15:30 – 16:00 **COFFEE BREAK**
- 16:00 – 17:00 **Angelos Michaelides** (University College London, UK) INV5
Structure and dynamics of water in the bulk and at surfaces
- 17:00 – 17:30 **Florian Mittendorfer** (TU Wien)
Accuracy in the theory of oxide surfaces
- 19:00 – 22:00 **POSTER DISCUSSION (11th floor)**

Friday, December 6th, 2019

- 09:15 – 10:15 **Ellen Backus** (Univ. Wien) INV06
Ultrafast SFG Study towards Water Splitting on TiO₂
- 10:15 – 10:45 **Gareth Parkinson** (TU Wien)
Single-Atom" Catalysis: An Atomic-Scale View
- 10:45 – 11:15 **COFFEE BREAK**
- 11:15 – 11:45 **Johannes Zeininger** (TU Wien)
Oscillating catalytic reaction on a nanoscale:
Multifrequency in H₂ oxidation on Rh
- 11:45 – 12:15 **Alex Opitz** (TU Wien)
Model electrodes for in-situ studies of surface chemistry and
as a pathfinder for high performance fuel cells
- 12:15 – 13:30 **BREAK**
- 13:30 – 14:00 **Noelia Barrabés** (TU Wien)
Atomically Designed Metal Nanocluster Catalysts:
Insights into the structure evolution under reaction conditions
- 14:00 – 14:30 **Michael Stöger-Pollach** (TU Wien)
The Cerenkov effect in functionalized oxides
- 14:30 **CLOSING**

Poster Programm

P01

Investigations of the CMR effect by EELS

W. Wallisch, M. Stöger-Pollach, E. Navickas, S. Löffler

Analytical Electron Microscopy in FOXSI: A review

W. Wallisch, M. Stöger-Pollach, W. Hetaba, T. Schachinger, A. Steiger-Thirsfeld, S. Schwarz, J. Bernardi

P02

Surface science studies of modified Co_3O_4 (111) thin films

T. Haunold, C. Rameshan, G. Rupprechter

LaCoO_3 perovskite as selective PROX catalyst: Operando XAS, XRD and DRIFTS

N. Yigit, L. Lukashuk, J. Bernardi, K. Föttinger, G. Rupprechter

P03

In Situ and operando DRIFTS characterization of solid-state electrode materials

D. Hauser, S. Penner, B. Klötzer

P04

Kinetic instabilities in H_2 oxidation on Rh: Chaos on a nm-scale

M. Raab, J. Zeininger, P. Winkler, G. Rupprechter, Y. Suchorski

Hydrogen oxidation on rhodium: metallic surface versus surface oxide

P. Winkler, C. Freytag, J. Zeininger, G. Rupprechter, Y. Suchorski,

P05

Yttrium-doped zirconia films: Phase stabilization and Y segregation

A. Brandt, P. Lackner, Z. Zou, U. Diebold, M. Schmid

P07

The surface structures of $\text{La}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ (110): An STM overview

G. Franceschi, M. Riva, M. Schmid, and U. Diebold

P09

In situ impedance spectroscopy upon pulsed laser deposition: A novel tool for analyzing pristine perovskite thin films

M. Siebenhofer, A. Schmid, G. Rupp, M. Kubicek, J. Fleig

SrTiO_3 upon light: Oxygen stoichiometry changes and their consequences

Viernstein, M. Morgenbesser, N. Bodenmüller, E. Ellmeyer, M. Kubicek, J. Fleig