

Special Research Program SFB F45 Functional Oxide Surfaces and Interfaces (FOXSI)

International SFB FOXSI Symposium, May 11-13, 2015
TUtheSky Lounge, TU Vienna

Monday, May 11th, 2015

- 9:15 – 09:45 **Günther Rupprechter**
Welcome address and overview on FOXSI
- 09:45 – 10:30 **John Kilner** (Imperial College, London, UK)
The gas-solid Interface: Implications for High Temperature
Electrochemical Devices
- 10:30 – 11:15 **COFFEE BREAK + POSTER DISCUSSION**
- 11:15 – 12:00 **John M. Vohs** (University of Pennsylvania, Philadelphia, USA)
Highly Active and Stable Supported Metal Catalysts Produced via
Redox Exsolution from Perovskites
- 12:00 – 13:20 **LUNCH BREAK**
- 13:25 - 13:30 **Johannes Fröhlich** (Vice Rector of Research, TU Vienna)
Welcome address
- 13:30 – 14:15 **Robert Schlögl** (Fritz Haber Institute & MPI Chemical Energy
Conversion, DE)
Dynamics of Metal Oxide Terminations
- 14:15 – 14:45 **Alexander Opitz** (FOXSI P09)
In-situ Studies on Perovskite-Type Electrodes under
Electrochemical Polarisation
- 14:45 – 15:30 **Gianfranco Pacchioni** (University of Milano-Bicocca, IT)
Adsorption and Reactivity of two-dimensional Insulators: Chlorides
versus Oxides
- 15:30 – 16:30 **COFFEE BREAK + POSTER DISCUSSION**
- 16:30 – 17:15 **Ulrike Diebold** (FOXSI P07)
Surface Science of Perovskites
- 17:15 – 17:45 **Florian Mittendorfer** (FOXSI P11)
The Chemical Activity of Layered Oxide Surfaces
- 19:00 – 22:00 **RECEPTION (Terrace 11th floor)**

Tuesday, May 12th, 2015

- 09:15 – 10:00 **Hans-Joachim Freund** (Fritz Haber Institute, Berlin, DE)
Models for Heterogeneous Catalysts: Complex Materials at the Atomic Level
- 10:00 – 10:45 **Claudine Noguera** (Pierre and Marie Curie University, Paris, F)
Polarity at Oxide Surfaces and Interfaces
- 10:45 – 11:30 **COFFEE BREAK + POSTER DISCUSSION**
- 11:30 – 12:00 **Christoph Rameshan** (FOXSI P02)
Zirconia Thin Films: In-situ Studies of Structure and Reactivity
- 12:00 – 13:30 **LUNCH BREAK**
- 13:30 – 14:15 **Ib Chorkendorff** (Technical University of Denmark, Lyngby, DK)
Mass-selected Nanoparticles for Investigating Fundamental Aspects of Catalysis
- 14:15 – 15:00 **Michael Bowker** (Cardiff University, UK)
Shell-core catalysts: MoOx@Fe₂O₃ for Methanol Selective Oxidation
- 15:00 – 15:30 **Gareth Parkinson** (FOXSI 07/05)
STM Studies of Adsorption and Spillover Effects at Model Catalyst Surfaces
- 15:30 – 16:30 **COFFEE BREAK + POSTER DISCUSSION**
- 16:30 – 17:00 **Karin Föttinger** (FOXSI 02)
In situ Spectroscopy of Cu- and CeO₂-promoted Ni/ZrO₂ Catalysts: Dynamic Structure and Reactivity in Methane Reactions
- 17:00 – 17:45 **Jörg Libuda** (University Erlangen-Nuremberg, DE)
Oxide-based Electrocatalysts for Fuel Cell Applications: Surface Science - Model Catalysis - In-situ Spectroelectrochemistry

Wednesday, May 13th, 2015

- 09:15 – 10:00 **Konstantin Neyman** (ICREA & University of Barcelona, ES)
Metal-Metaloxide Nanostructures in Catalysis and Energy
Technologies from a Viewpoint of Density Functional Modelling
- 10:00 – 10:30 **Martin Datler** (FOXSI 04)
Visualizing Reaction Kinetics: Hydrogen Oxidation on Rh and
Rh/ZrO₂ model catalysts
- 10:30 – 11:00 **COFFEE BREAK**
- 11:00 – 11:30 **Eva-Maria Köck & Michaela Kogler** (FOXSI 03)
Carbon chemistry on SOFC-relevant oxide surfaces
- 11:30 **CLOSING**

Posters

F4501 Ruppachter / P01

Günther Ruppachter, Johannes Bernardi, Andreas Stierle

Coordination Project including USTEM and DESY

Walid Hetaba (P 01):

Aberration-corrected TEM investigation of Magnetite

Stefan Löffler (P 01):

Mapping electronic orbitals in the TEM

F4502 Ruppachter / P02

Hao Li, Christoph Rameshan, Günther Ruppachter

In situ spectroscopy on ultrathin ZrO₂ films and metal-oxide systems

Astrid Wolfbeisser, Karin Föttinger, Günther Ruppachter

In situ Spectroscopy of technological Cu- and CeO₂- promoted Ni/ZrO₂ Catalysts:
Dynamic Structure and Reactivity in Methane Reactions

F4503 Klötzer / P03

Lukas Mayr, Simon Penner, Bernhard Klötzer

Steering of methanol chemistry by zirconium-copper and zirconium-palladium interaction

Ramona Thalinger, Simon Penner, Bernhard Klötzer

Chemically induced segregation effects on Ni-STF/LSF

F4504 Suchorski / P04

M. Datler, I. Bepalov, J. Zeininger, G. Ruppachter, Y. Suchorski

Topography of the reaction front nucleation and propagation in H₂ oxidation on Rh

I. Bepalov, M. Datler, S. Buhr, J. Zeininger, P. Blaha, G. Ruppachter, Y. Suchorski

Initial stages of Zr surface oxidation: XPS, PEEM, FIM, FEM and DFT studies

F4505 Schmid / P05

Joong Il Jake Choi, Ulrike Diebold, Michael Schmid

SMSI in inverse model catalysts: ZrO₂ on Pt and Rh

F4506 Stierle / P06

Sergey Volkov, Andreas Stierle

Atomic structure of functional oxide interfaces under operational conditions

Björn Arndt, Andreas Stierle

Surface structure of Fe₃O₄ studied by surface x-ray diffraction

F4507 Diebold / P07

Michele Riva, Stefan Gerhold, Ulrike Diebold

SrTiO₃(110): Surface Modifications and Growth Studies

Daniel Halwidi, Ulrike Diebold

Surface Chemistry of Strontium and Calcium Ruthenates

F4509 Fleig / P09

Stefanie Taibl, Günter Faflek, Jürgen Fleig

The impedance of SrTiO₃ thin films upon bias: Inductive loops as a tracer of ion motion

Edvinas Navickas, Tobias Huber, Hutter Hutter, Jürgen Fleig

The relevance of grain boundaries for thermal and bias based oxygen diffusion in (La,Sr)MnO₃ thin films

F4511 Redinger / P11

Florian Mittendorfer, Josef Redinger

Theory of oxide surfaces and metal/oxide interfaces

