

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

18.-20. September 2013, Conference Center Burg Schlaining, Stadtschlaining, Austria

**Wednesday, September 18th, 2013**

- 9:00 – 11:00 Bus transfer from Vienna Karlsplatz to Burg Schlaining
- 11:00 Check-in and Registration
- 12:00 – 13:00 **Get-together and LUNCH**
- 13:00 – 13:05 Welcome Address – **Josef Redinger**
- 13:05 – 13:15 Report of the SFB Speaker **Günther Rupprechter**
- 13:15 – 14:15 INVITED  
**Wolf Widdra** (University Halle, Germany)  
“Epitaxial ZrO<sub>2</sub> and BaTiO<sub>3</sub> thin films: structure, dynamical, and electronic properties at the interface”
- 14:15 – 15:00 **COFFEE BREAK + POSTER DISCUSSION**
- 15:00 – 15:30 **Michael Schmid**  
“STM on ultra-thin ZrO<sub>2</sub> film: growth of metal clusters and H<sub>2</sub>O adsorption studies” (05)
- 15:30 – 16:00 **Günther Rupprechter**  
“Ni-ZrO<sub>2</sub>-Nm<sub>3</sub>Zr model systems: preparation, stability, water and CO adsorption” (02)
- 16:00 – 16:30 **Josef Redinger**  
“Theory of oxide surfaces and metal/oxide interfaces: status and outlook” (11)
- 16:30 – 17:00 **Bernhard Klötzer**  
“Model investigations of SOFC relevant reforming processes” (03)
- 17:30 – 18:30 **DINNER**

19:00 – 20:00 INVITED  
**Geoff Thornton** (University College London, UK)  
“Submerged TiO<sub>2</sub>: surface crystallography and electronic structure”

20:00 – 21:30 **POSTER DISCUSSION**

**Thursday, September 19th, 2013**

07:30 – 09:00 **Breakfast**

09:00 – 10:00 INVITED  
**Ib Chorkendorff** (DTU Lyngby)  
“Rational design of oxygen reduction reaction and hydrogen peroxide catalysts: from surface science to nanoparticles”

10:00 – 10:30 **COFFEE BREAK**

10:30 – 11:00 **Yuri Suchorski**  
“Kinetics of initial oxide formation on the Zr surface at low oxygen pressures” (04)

11:00 – 11:30 **Andreas Stierle**  
“From ultrathin ZrO<sub>2</sub> films to model electrodes under oxygen potential control” (06)

11:30 – 12:00 **Ulrike Diebold**  
“Progress in the surface investigations of perovskite (and other oxides ” (07)

CONFERENCE PHOTOGRAPH

12:15 – 13:30 **LUNCH**

13:30 – 14:00 **Jürgen Fleig**  
“Ion transport in yttria stabilized zirconia (YSZ)” (09)

14:00 – 14:30 **Ulrich Schubert**  
“New precursor concepts for sol-gel-derived oxide materials” (10)

- 14:30 – 15:00 **YS1 Christoph Rameshan**  
“XPS: a powerful technique for ex- and in-situ surface characterization”
- 15:00 – 16:30 **COFFEE BREAK + POSTER DISCUSSION**
- 16:30 – 17:00 **YS2 Vedran Vonk**  
“Surface x-ray diffraction results from the Pt<sub>3</sub>Zr(0001) surface after oxidation”
- 17:00 – 17:30 **YS3 Gareth Parkinson**  
“Highly stable metal adatoms at the Fe<sub>3</sub>O<sub>4</sub>(001) surface”
- 18:30 – 20:00 **DINNER**
- 20:00 – 21:30 **Discussions**

### **Friday, September 20th, 2013**

- 07:30 – 09:00 **Breakfast**
- 09:00 – 10:00 **Josef Redinger, Günther Rupprechter**  
SFB General Assembly  
(PIs, incl. Senior Scientists and Young Faculty)
- 10:00 - 11:30 **Discussion Meetings**  
PIs, Young Scientists and PhD Students
- 11:30 – 12:30 **LUNCH**
- 13:00 Bus transfer to Vienna, Karlsplatz (return ca. 15:00)

## Posters:

### **Walid Hetabe (P 01/USTEM):**

“Chemical and structural analysis on the nanoscale”

### **Astrid Wolfbeisser (P 02):**

“In situ XPS of CuNi-ZrO<sub>2</sub> during methane decomposition”

### **Hao Li (P 02):**

“Preparation and characterization of Pt and Ni particles grown on ZrO<sub>2</sub> ultra thin film”

### **Harald Holzapfel (P 02):**

“Rearrangement of atoms in bimetallic PdZn/Pd(111) surface alloy”

### **Kresimir Anic (P 02):**

“Preparation and characterization of Ni/ZrO<sub>2</sub>/Pd<sub>3</sub>Zr”

### **Nevzat Yigit (02):**

“Ethanol steam reforming over ZnO and ZrO<sub>2</sub> supported Cu and Ni catalysts”

### **Eva-Maria Köck (P 03):**

“FT-IR results on Y<sub>2</sub>O<sub>3</sub>, YSZ and ZrO<sub>2</sub>“

### **Michaela Kogler (P 03):**

“TEM studies of carbon deposition on YSZ and Y<sub>2</sub>O<sub>3</sub>; impedance spectroscopy on ZrO<sub>2</sub>“

### **Ramona Thalinger (P 03):**

“TEM studies of Ni/Cu on ZrO<sub>2</sub> and catalysis on perovskite-based anode catalysts“

### **Lukas Mayr (03):**

“Identification of an active Cu(ox)/Zr(ox) phase boundary via real and inverse model catalyst studies”

### **Ivan Bepalov (P 04):**

“Catalytic CO oxidation on individual grains of polycrystalline Pd: topography of the reaction fronts”

**Martin Datler (P 04):**

“Surface oxides on Zr and Pd surfaces: an XPS and PEEM study”

**Joong-il Choi (P 05):**

“Atomic H, water and oxygen vacancies on  $\text{ZrO}_2/\text{Pt}_3\text{Zr}(001)$ : an STM study”

**Sergey Volkov (P 06):**

“In-situ x-ray studies of fuel cell cathode model electrodes”

**Heshmat Noei (P 06):**

“FT-IR studies of oxide surfaces and small molecules”

**Björn Arndt (P 06):**

“Epitaxial ceria films under varying oxygen chemical potential”

**Stefan Gerhold (P 07):**

“X-ray adsorption and photoemission spectroscopy study of polar, reconstructed  $\text{SrTiO}_3(110)$  surfaces”

**Roland Bliem (P 07):**

“Investigation of single Ni adatoms on the  $\text{Fe}_3\text{O}_4(001)$  surface”

**Bernhard Stöger (P 07):**

“STM study of single-crystalline  $\text{Sr}_3\text{Ru}_2\text{O}_7$ ”

**Oscar Gamba (07):**

“Water Gas Shift Reaction Surface at the  $\text{Fe}_3\text{O}_4(001)$ ”

**Margareta Wagner (07):**

“Comparing the surfaces of  $\text{ITO}(111)$  thin films with  $\text{In}_2\text{O}_3(111)$  single crystals”

**Edvinas Navickas (P 09):**

“Oxygen tracer exchange of Pt and perovskite-type electrodes on yttria stabilised zirconia”

**Katharina Langer-Hansel (P 09):**

“Tracer diffusion and tracer exchange of thin  $\text{SrTiO}_3$  and  $\text{LaFeO}_3$  films”

**Sandra Kogler (09):**

“La<sub>0.6</sub>Sr<sub>0.4</sub>FeO<sub>3-6</sub> as electrode material in H<sub>2</sub> atmosphere”

**Marcel Hieckel (P 11):**

“DFT calculations for CO adsorption on a Sr<sub>3</sub>Ru<sub>2</sub>O<sub>7</sub>(001) surface”

**Wernfried Mayr-Schmölzer (P 11):**

“Water on ZrO<sub>2</sub>/Pt: DFT calculations including van der Waals interactions”