

**Materials, Characterization, and Catalysis workshop
ETH Zurich, 15-17 January 2018**

January 15

- 12:00 Registration
12:30 Opening remarks
12:35 **Tailoring porous organic polymers towards reducing CO₂ emissions**
Prof. Ali Coskun, University of Fribourg, Switzerland
13:20 **Engineering defects in MOFs**
Dr. Andraž Krajnc, National Institute of Chemistry, Slovenia
13:40 **ADOR and related chemistry of zeolites: Intelligent design of new materials**
Dr. Maksym Opanasenko, J. Heyrovský Institute of Physical Chemistry, Czech Republic
14:00 **To be confirmed**
Mariame Akouche, Ensicaen, France
14:20 Coffee break
15:00 **Innovative tools to probe complex pore networks in catalysts**
Dr. Sharon Mitchell, ETH Zurich, Switzerland
15:45 **Unraveling structure sensitivity in CO₂ hydrogenation over Ni**
Charlotte Vogt, Utrecht University, The Netherlands
16:05 **The polar KTaO₃ (001) surface studied by combined STM/AFM**
Dr. Martin Setvín, TU Wien, Austria
16:25 **Using calorimetry to further understand 'negative gas adsorption' in DUT-49**
Dr. Paul Iacomi, Aix-Marseille University, France
16:45 End of day

January 16

- 09:00 **Shedding 'bright' light on structure-function relationships in heterogeneous catalytic materials**
Prof. Andrew Beale, UCL, UK
09:45 **Answering catalytic questions at the microscopic scale using advanced raman imaging**
Guillaume Fleury, KU Leuven, Belgium
10:05 **Unravelling the structure of nanoporous materials using electron crystallography**
Dr. Tom Willhammar, Stockholm University, Sweden
10:25 Coffee break
11:00 **Molecular approach to adsorption in multiscale porous materials**
Prof. Benoit Coasne, University Grenoble-Alpes, France
11:45 **To be confirmed**
Daniel Schneider, Leipzig University, Germany
12:05 **Lattice Boltzmann approach to reactive flows in nanoporous catalysts**
Dr. Andrea Montessori, Università Degli Studi Roma Tre, Italy
12:25 **Use of classical density functional theory to study flow effects on surface reactions under nano-confinement**
Dr. Lian Cheng, UCL, UK
12:45 Lunch
14:00 **Catalyst design for an efficient use of biomass and CO₂ as renewable carbon sources**
Prof. Regina Palkovits, Aachen University, Germany
14:45 **Outstanding methane oxidation performance over Pd embedded ceria catalysts**
Maila Danielis, University of Udine, Italy
15:05 **Unique reactivity of Ag and mechanistic insights into selective CO₂ hydrogenation to methyl formate**

- Juan José Corral, ICIQ, Spain
- 15:25 **Liquid phase furfural hydrogenation using monometallic and bimetallic catalysts supported on carbon: Batch vs. continuous flow**
Dr. Pepijn Prinsen, University of Cordoba, Spain
- 15:45 **A heterogeneous single-atom palladium catalyst surpassing homogeneous catalysts for Suzuki coupling**
Dr. Gianvito Vilé, Idorsia Pharmaceuticals Ltd., Switzerland
- 16:05 Poster Session
- 18:00 End of day

January 17

- 09:00 **New concepts in heterogeneous catalysis beyond linear scaling relationships**
Prof. Núria López, ICIQ, Spain
- 09:45 **Theoretical insights into the oxygen reduction reaction: From platinum towards doped graphene systems**
Dr. Donato Fantauzzi, University of Iceland, Iceland
- 10:05 **Ligand effects on nanoclusters and nanoparticles**
Dr. Lars Gell, University of Jyväskylä, Finland
- 10:25 Coffee break
- 11:00 **Adhesion induced changes of $\text{Co}_3\text{O}_4/\alpha\text{-Al}_2\text{O}_3$ catalyst morphology, facets reconstruction and oxide-support interfaces: Ab-initio DFT and STEM/TEM account**
Joanna Grybos, Jagiellonian University, Poland
- 11:20 **Advances in adsorption techniques**
Dr. Jeff Kenvin, Micromeritics Instruments Corporation, USA
- 12:05 Closing and prizes