Registration

Deadline for registration: Jan 31st, 2020
mirjam.zobel@uni-bayreuth.de, bajlechner@tum.de
Participation is free of charge, but registration required.
www.e-conversion.de/
workshop-on-chemical-and-energy-conversion-at-interfaces/

Organization

Barbara Lechner is a Junior Fellow at the Technical University of Munich and member of the Young Scholars’ Program of the Bavarian Academy of Sciences and Humanities since 2017.
Mirijam Zobel is assistant professor at the University Bayreuth and member of the Young Scholars’ Program of the Bavarian Academy of Sciences and Humanities since 2017.
badw.de/en/young-academy

Supported by

e-conversion

e-conversion is a new Cluster of Excellence funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) with a focus on investigating fundamental mechanisms of energy conversion processes.

Chemical and energy conversion at interfaces

Interfaces play an important role in many technological applications, ranging from heterogeneous catalysis in combustion control and fine chemical synthesis over photovoltaics to battery technologies. Solid/vacuum and solid/gas interfaces have been in the focus of surface science research for many years, whereas research on interfaces involving for example liquids only took off recently since these are more difficult to access experimentally. Much of the recent insight was enabled by strong pushes in novel instrumentation and techniques involving spectroscopic, imaging and scattering techniques. The aim of the workshop is to discuss fundamental research on chemical processes at technologically relevant solid/solid, solid/liquid and solid/gas interfaces. Specific topics will include, but are not limited to, solvation effects, dynamic processes, structural tuning and light harvesting in materials for battery, catalysis and photovoltaics research.
Program

MONDAY, 17 FEBRUARY 2020

10.00  Coffee & Welcome
BARRBARA LECHNER, MIRIJAM ZOBEL

Solid-liquid interfaces
10.20  Probing the solid-liquid interface with soft X-ray absorption spectroscopy
TRISTAN PETIT
(Helmholtz-Zentrum Berlin)

11.00  Implicit modeling of dielectric interfaces
HARALD OBERHOFER
(TU Munich)

11.40  Investigation of the solid-electrolyte interaction
SASKIA HEUMANN
(MPI, Mülheim a.d. Ruhr)

12.20  Lunch

Catalytic Conversion
13.20  Investigating gas-solid interactions inside the electron microscope
THOMAS LUNKENBEIN
(Fritz-Haber-Institut, Berlin)

14.00  Vibrational spectroscopy at the solid-gas and solid-liquid interfaces
BAREN EREN
(Weizmann Institute of Science, IL)

14.40  Theoretical investigations of electrochemical CO₂ reduction
KAREN CHAN
(Technical University of Denmark, DK)

15.20  In situ microscopy of chemical reactions at metal-oxide interfaces using slow electrons
JAN-INGO FLEGE
(Brandenburg University of Technology, Cottbus)

16.00  Coffee break

Lightning Session
16.20  Short presentations by Master and Ph.D. students

19.00  Workshop dinner

TUESDAY, 18 FEBRUARY 2020

Conversion by Light
9.00  Plasmonic chemistry
EMILIANO CORTÉS (LMU Munich)

9.40  Properties of excitons in 2D materials – spin, mass and dielectric effects
ANDREAS STIER (TU Munich)

10.20  Coffee break

10.40  Engineered interfaces for efficient and robust artificial photosynthesis
IAN SHARP (TU Munich)

11.20  Ultrafast light harvesting dynamics of membrane-bound antenna complexes
JÜRGEN HAUER (TU Munich)

12.00  Lunch

Nanostructured interfaces

13.00  An atomic-scale view on the on-surface synthesis of low-dimensional carbon materials
SABINE MAIER
(FAU Erlangen-Nürnberg)

13.40  Measuring and modelling dynamic processes of aromatic hydrocarbons at surfaces
HOLLY HEDGELAND (Open University, UK)

14.20  Catalysis with nanocluster arrays
CHRISTIAN PAPP (FAU Erlangen-Nürnberg)

15.00  Concluding remarks