

# Physical Methods in Molecular and Heterogeneous Catalysis

September 18 - 25, 2016

Wissenschaftspark Gelsenkirchen, Germany

Our series of summer schools that explores the synergy of molecular electronic structure theory and spectroscopy expands this year to cover an extended range of methods relevant to both molecular and heterogeneous catalysis. By combining these historically distinct areas under a single program, we aim to help the participants develop an appreciation of common principles and to encourage a unified view of theoretical and physical methods in catalysis research.

The summer school will consist of lectures by international experts, followed by practical sessions based on computational exercises.

## Keynote speaker



Anders Nilsson  
University of Stockholm

## Lecturers

- Ali Alavi
- Frank Neese
- Felix Tuczek
- Eckhard Bill
- Serena DeBeer
- Maurice van Gastel
- Dimitrios Pantazis
- Frank Wennmohs
- Thorsten Glaser
- Robert Schlögl
- Marc Willinger
- Malte Behrens
- Jennifer Strunk
- Axel Knop-Gericke
- Shengfa Ye
- Olaf Rüdiger

## Topics

- Quantum Chemistry and Solid State Theory
- The ORCA program system
- Ligand field theory and optical spectroscopy
- Spin Hamiltonians and Magnetochemistry
- X-ray photoelectron spectroscopy
- Vibrational spectroscopy
- Electron paramagnetic resonance
- X-ray spectroscopy
- Mössbauer spectroscopy
- Microscopy
- Electrochemistry
- Photocatalysis
- Surface Characterization
- Reactivity and Kinetics



Organizers:

Dimitrios Pantazis, Serena DeBeer, Eckhard Bill  
Max Planck Institute for Chemical Energy Conversion

<http://www.cec.mpg.de/workshops/summerschool2016>



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This Summer School is part of the International  
Max Planck Research School on Reactive Structure  
Analysis for Chemical Reactions (IMPRS RECHARGE).

