

**Venue**

The symposium will be held in the Auditorium of the Paul Scherrer Institut in Villigen. The location (bus stop Villigen PSI West) can be reached by public transport or by car via Baden or Brugg. Details may be found on the PSI website [www.psi.ch](http://www.psi.ch).

**Registration**

Please use the online registration form on <http://ec13.psi.ch>. The deadline is April 2, 2013. The registration fee has to be paid in **cash at the symposium**. The package includes the book of abstracts, lunch and beverages during the coffee breaks. Registered attendees not showing up at the symposium will be charged the full registration fee, if we do not receive a cancellation notice at least 48h before the start of the symposium.

**Registration fee**

Regular CHF 100 EUR 80  
Student\* CHF 50 EUR 40

\* please produce student ID at the registration desk

**Abstracts for Poster Contributions**

Abstracts must be submitted electronically using the Microsoft Word template provided on the internet site <http://ec13.psi.ch>.

The deadline for abstract submission is April 2, 2013.

**The Symposium on the Internet**

<http://ec13.psi.ch>

**Accommodation**

For the night of April 23/24, 2013, a set of rooms has been reserved at the following hotels:

**Hotel Schloss Böttstein**, 5315 Böttstein  
Phone: +41 56 269 16 16  
Fax: +41 56 269 16 66  
[info@schlossboettstein.ch](mailto:info@schlossboettstein.ch)  
[www.schlossboettstein.ch](http://www.schlossboettstein.ch)  
at a rate of CHF 110, incl. breakfast.

**Best Western Hotel Du Parc**,  
Römerstrasse 24, 5000 Baden  
Phone: +41 56 203 15 15  
Fax: +41 56 222 07 93  
[duparc@welcomhotels.ch](mailto:duparc@welcomhotels.ch)  
[www.duparc.ch](http://www.duparc.ch)  
rates starting at CHF 195, incl. breakfast.

Please make your reservation before April 2 directly with the hotel, mentioning the symposium and the code "ec13".

**Contact Addresses**

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PAUL SCHERRER INSTITUT



## Insights from the Inside: Imaging Electrochemical Systems



## 29<sup>th</sup> One-Day-Symposium Electrochemistry Laboratory

April 24, 2013  
Paul Scherrer Institut  
5232 Villigen PSI, Switzerland

<http://ec13.psi.ch>

This Symposium is co-sponsored by The Electrochemical Society (ECS)  
and The International Society of Electrochemistry (ISE).



# Insights from the Inside: Imaging Electrochemical Systems

## Program

Dear Guests,

Imaging materials and devices '*at work*' and '*having a look*' at their properties is a continuous scientist's desire for helping to gain better understanding of their transitions, changes or activity during operation. Whereas the original view was by pure optical means, today's view often is based on electrons, X-rays and sophisticated computational analysis to obtain two- and three-dimensional images of bulk materials and their surfaces containing electronic, structural and compositional information, which helps to address the big challenge of creating not only a link between electronic, interfacial and bulk properties, but also attaining insight into the interplay between surface chemistry, structure morphology and different materials, respectively.

At the 29<sup>th</sup> One-Day-Symposium of PSI's Electrochemistry Laboratory, six leading experts will report about *Imaging Electrochemical Systems* from the atomic to the sub-millimeter scale of surfaces, bulks and even devices.

We are looking forward to meeting you again on April 24, 2013, at the Paul Scherrer Institut for discussions, sharing viewpoints or simply for own educational purposes with the goal of *Gaining Insights from the Inside!*

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\*Paul Scherrer Institut's Electrochemistry Laboratory is the major institution of its kind in Switzerland. Our main research and development interests are directed towards energy conversion and storage at a technical scale (mobile, stationary, and portable applications of electrochemical systems), including many fundamental aspects of atomic and molecular electrochemistry.

### 09.15 Welcome Coffee

09.45 Thomas J. Schmidt, Paul Scherrer Institut, Villigen  
Welcome & Introduction

10.00 Robert Kostecki, Lawrence Berkeley National Laboratory  
Berkeley  
*In situ* imaging of electrochemical interfaces and interphases with far- and near-field optical probes

10.40 Wolfgang Schuhmann, Ruhr-Universität Bochum  
Electrocatalysis and batteries meet scanning electrochemical microscopy

### 11.20 Coffee Break

11.50 Pierre Boillat, Paul Scherrer Institut, Villigen  
Neutron imaging of fuel cells: combining visualization with advanced diagnostics

### 12.30 Buffet Lunch

14.00 Olaf Magnussen, Christian-Albrechts-Universität zu Kiel  
*In situ* video-STM and X-ray scattering studies of electrode surface dynamics

14.40 Karl J.J. Mayrhofer, Max-Planck-Institut für Eisenforschung, Düsseldorf  
Stability of electrocatalysts on the nanoscale – identical-location transmission electron microscopy

15.20 Werner Lehnert, Forschungszentrum Jülich  
Investigation of HT-PEFCs by means of synchrotron X-ray radiography and electrochemical impedance spectroscopy

16.00 Thomas J. Schmidt, Paul Scherrer Institut, Villigen  
Summary

### 16.10 Farewell Coffee

Photograph on front page

Water droplet on surface of gas diffusion layer for fuel cells during contact angle measurement

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29<sup>th</sup> One-Day-Symposium  
Imaging Electrochemical Systems

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