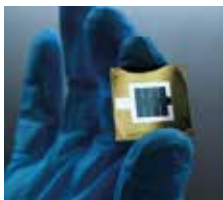


# International Winter School on Analytics for Photovoltaics and Photoelectrochemistry

February 8-14, 2025 in Hirschegg / Austria

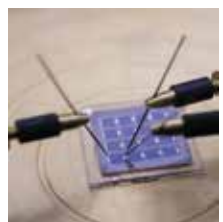
**HZB** Helmholtz  
Zentrum Berlin

## QUANTSOL FIRST ANNOUNCEMENT AND CALL FOR APPLICATION



We would like to inform you about the upcoming “Quantsol winter school on Analytics for Photovoltaics and Photoelectrochemistry” to be held from February 8 - 14, 2025 in Hirschegg, Kleinwalsertal, Austria. The school is now open for application until December 13, 2024.

The school primarily addresses young postdocs, PhD students, and master students in their final year at university with an interest in photovoltaics, photoelectrochemistry and solar energy conversion.



Invited speakers, all recognised scientists from leading world institutions, will give lectures covering a wide range of topics on the fundamental principles of advanced characterisation techniques as well as the physical and technical challenges.

The school is complimentary to the very successful Quantsol summer school on photovoltaics. The winter school will be very interactive and the participants and speakers are requested to present their field of research and themselves in a short oral presentation on the first day of the school. Details of the school's program can be found on the webpage:

[www.helmholtz-berlin.de/events/quantsol-winterschool/index\\_en.html](http://www.helmholtz-berlin.de/events/quantsol-winterschool/index_en.html)

### Subjects

Introduction to the major challenges of photovoltaics and photocatalysis  
Electrical characterisation (*4-Probe, EQE, SPV, CV, Hall effect*)  
Structural and morphological characterisation (*XRD, EDSD etc.*)  
Scanning and transmission electron microscopy (*SEM, TEM*)  
Nanoprobe characterization (*AFM, STM, Kelvin probe etc.*)  
Magnetic characterisation (*EPR, NMR*)  
Solar cell characterisation (*EQE, IQE, Suns Voc, Sun simulator, etc.*)  
Lifetime spectroscopy (*PL, TR-PL, pump-probe, transient absorption, THz spec. etc.*)  
Optical characterisation (*Transmission, absorption, Ellipsometry, IR, Raman etc.*)  
Chemical analysis (*SIMS, ERDA, RBS, GDOES, XRF, EDX, WDX etc.*)  
X-Ray spectroscopy (*XPS, UPS, XAS, XES, XRF*)  
Hardware (*lock-in amplifier, etc.*)  
Data analysis and error calculation  
Electrochemical characterisation

### Speakers

Thomas Unold (HZB, GER)  
Thomas Kirchartz (FZ Jülich, Univ. Duisburg, GER)  
Marco Favaro (HZB, GER)  
Klaus Lips (HZB, FUB, GER, Univ. of Utah, USA)  
Daniel Vanmaekelbergh (Utrecht University, NL)  
Susan Schorr (HZB, FUB, GER)  
Katja Höflich (FBI, HZB, GER)  
Christiane Becker (HZB, GER)  
Inez Weidinger (TU Dresden, GER)



### Location

The lectures will be given in the mountain guesthouse „Darmstädter Haus“ ([www.darmstaedter-haus.tu-darmstadt.de/unserhaus/index.de.jsp](http://www.darmstaedter-haus.tu-darmstadt.de/unserhaus/index.de.jsp)) of the Technische Universität Darmstadt in Hirschegg (Kleinwalsertal, Austria), where all attendants and lecturers will be lodged.

### School fee

School fee is 690 € for participants from universities and research institutes and 790 € for participants from industry. The school fee includes board (excluding drinks), lodging, and registration fee.

### Applications

Students who intend to participate in the winter school are required to apply through the school's homepage:

[www.helmholtz-berlin.de/events/quantsol-winterschool/applications/index\\_en.html](http://www.helmholtz-berlin.de/events/quantsol-winterschool/applications/index_en.html)

Since the winter school is limited to 50 students, we have a selection procedure. In order to be able to judge on your qualification, you are requested to submit your curriculum vitae plus a short statement that justifies favorable consideration as a participant.

Students that are accepted to participate in the summer school will be notified at the beginning of January 2025 and are then asked to register by paying the school fee via bank transfer (credit cards are not accepted). Further details will be sent out with the notification of acceptance.



Mountain guesthouse „Darmstädter Haus“ of TU Darmstadt in Hirschegg

### Winter Activities

Kleinwalsertal offers great winter activities such as skiing, winter hiking, cross country skiing, ice skating, and tobogganing. Details can be found here: <https://www.kleinwalsertal.com/en/Activities/Winter>

### Organised and financed by:

Helmholtz-Zentrum Berlin für Materialien und Energie (HZB)  
The European Society for Quantum Solar Energy Conversion

### Organising committee:

Chair and organizer: Prof. Dr. Klaus Lips (HZB, GER)

### Contact for further information

E-Mail: [quantsol@helmholtz-berlin.de](mailto:quantsol@helmholtz-berlin.de)

Webpage: [www.helmholtz-berlin.de/events/quantsol-winterschool/index\\_en.html](http://www.helmholtz-berlin.de/events/quantsol-winterschool/index_en.html)

Deadline for application is December 13<sup>th</sup>, 2024 (23.59 pm CET)