

# 5<sup>th</sup> ELSICS Conference

October 8-9, 2026

## Energy Landscapes and Structure of Ion Conducting Solids

Conference location

Haus der Begegnung in Ulm

Grüner Hof 7, 89073 Ulm

### Contact:

Prof. Dr. Karl-Michael Weitzel  
University of Ulm, Institute of Electrochemistry  
(karl-michael.weitzel@uni-ulm.de)

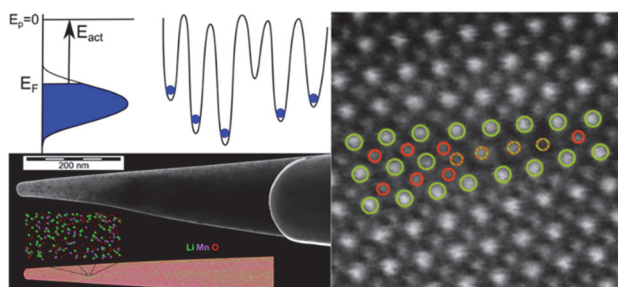
<https://www.uni-ulm.de/nawi/for-5065-elsics>

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# Energy Landscapes and Structure in Ion Conducting Solids (ELSICS)

The potential energy landscape of mobile ions in solid-state materials and the atomic scale structure are intimately interrelated. This interrelation and the resultant properties, e.g. the mobility of the ions, is of paramount interest in contemporary material science with direct applications in energy storage and conversion. Understanding the interplay of structure, energy landscape and ionic transport of ionic solids is of crucial importance for a knowledge-based development of improved and new functionalities of these materials.

The DFG Research Unit ELSICS (FOR 5065) has been founded in December 2020 with the goal to quantify the energy distribution of ionic sites in solids on the basis of atomically resolved structures and in conjunction with ionic transport properties with a truly concerted effort of experimental and theoretical research groups. This joint effort involves state-of-the-art expertise from diverse experiments [charge attachment induced transport (CAIT), time-of-flight secondary ion mass spectrometry (ToF-SIMS), solid-state nuclear magnetic resonance (NMR), atom probe tomography (APT), analytical and high-resolution transmission electron microscopy (HR-TEM) and XPES], as well as dedicated solid-state matter theory for crystalline and amorphous materials.

In 2025 we received funding for a 2<sup>nd</sup> period of ELSICS from 2026-2029 including funds for organizing one ELSICS conference per year.

**The 5<sup>th</sup> ELSICS conference will take place in Ulm (DE) in October 2026. This conference will collect presentations from invited speakers as well as contributed presentations.**

Key topics for progress reports are

- Ion transport in amorphous, crystalline and poly-crystalline solids
- Short range versus long-range transport as seen by NMR, CAIT and IS
- Oxidation states in interface and interphase regions
- Energy landscapes in ion conducting solids: site energy distribution, populated vs. unpopulated sites
- Interrelation between atomically resolved structure and energy landscapes
- Predictive methods for correlating energy landscapes to material structure and function

## Call for Abstracts

The program will include 7 invited speakers. There is the possibility to present contributed talks subject to the number of slots available (approximately 20). We also intend to hold a Poster-Session.

For further details contact the chairperson ([karl-michael.weitzel@uni-ulm.de](mailto:karl-michael.weitzel@uni-ulm.de)) or the www page at <https://www.uni-ulm.de/nawi/nawi-elektrochemie/forschung/for-5065-elsics/meetings>. Dead line for abstract submission will be 1<sup>st</sup> of August 2026.

## Travel Information

Ulm can easily be reached by all means of transportation.

### *Arriving by plane*

The nearest airports to Ulm are Stuttgart and Memmingen. There are regular train connections to Ulm from Stuttgart.

### *Arriving by train*

Ulm can conveniently be reached by train. It has a stop of the German ICE train system (Deutsche Bahn).

### *Arriving by car*

Ulm is located at the German Autobahn A8 und A7. It is approximately 92 km from Stuttgart via the A8 or approximately 192 km from Würzburg via the A7

## **Invited Speakers (not yet confirmed)**