



OeAW - Discovering the future

As a central non-university institution for science and research, the **Austrian Academy of Sciences - OeAW** has the task of "**promoting science in every respect**". Founded in 1847 as a learned society, it now has over 760 members and around 1,800 employees dedicated to innovative basic research, interdisciplinary knowledge exchange and the dissemination of new insights. The OeAW initiates and maintains partnerships worldwide and represents Austria in international scientific organizations; it cooperates with numerous institutions in the scientific field in order to actively **shape the research landscape**.



Senior Engineer (f/m/x) in Synchrotron analysis of functional materials

Job ID: ESI170TEC125

The Erich Schmid Institute of Materials Science of the Austrian Academy of Sciences (ÖAW), Austria's leading non-university research and science institution, is offering a position in Leoben as

Senior Engineer (f/m/x) in Synchrotron analysis of functional materials

(40 hours per week /N5)

The successful candidate will be responsible for developing methodology for nanoscopic synchrotron analysis of materials in hydrogen, thermal, and magnetic environments, including the design and implementation of in situ and operando experimental approaches, integration of custom electrochemical cells and devices at synchrotron beamlines in Grenoble (ESRF), Hamburg (Petra III), and Berlin (BESSY II) as well as the development of advanced data acquisition and analysis workflows to resolve such phenomena as nanoscale hydrogen permeation, strain evolution and microstructural transformations. The position is strictly a fixed term appointment for a maximum of 12 months

Your Tasks

The successful candidate will be part of an international research team investigating functional nano-materials including hydrogen–metal interactions with the objective of understanding hydrogen permeation and its coupling to microstructural transformations in bulk polycrystalline metals. The candidate will contribute to the development, implementation and validation in situ/operando methodologies to address fundamental gaps between theoretical models and experimental verification in these material systems.

- Development and implementation of in situ and operando synchrotron methodologies for nanoscopic X-ray diffraction and imaging studies, for example, on hydrogen–metal systems, as well as magnetic and thermal behavior of thin films and nanostructured materials.
- Design, fabrication and integration of custom electrochemical cells for electrolytic hydrogen charging during synchrotron experiments at multiple European synchrotron beamlines.
- Planning, execution and analysis of high-rate synchrotron experiments to resolve hydrogen-induced changes in bulk metals, as well as thermo-mechanical behavior of self-healing thin films.
- Quantitative correlation of experimental data with microstructural and mechanical measurements.
- Development of advanced data-analysis workflows and programming tools for large-scale synchrotron datasets, including statistical, analytical and visualization methods.

Your Profile

- Master degree, PhD or Engineering diploma in Materials Sciences, Mechanical Engineering, or closely related fields.
- Extensive experience working at synchrotron radiation facilities, including the application of high-energy X-ray techniques and the use of focused X-ray nano-beams for structural, microstructural and especially strain analysis of materials.
- Extensive experience in CAD-based design of experimental devices and components, including the development of custom sample environments or loading geometries, combined with practical experience in electrochemistry, particularly in the design, implementation and operation of electrochemical cells for *in situ* and *operando* materials characterization.
- Strong programming and research data management skills, with demonstrated experience in scientific programming and data analysis using Python and Mathematica, as well as handling large experimental datasets.
- Ability to work independently and responsibly, combined with a strong team-oriented mindset in interdisciplinary and international research environments.
- Excellent communication skills in both spoken and written English and German, with the ability to clearly present complex scientific results to diverse audiences; proficiency in both languages is mandatory.

Our Offer

We offer an international, ambitious environment for basic research-oriented candidates who want to perform cutting-edge research with access to world-class synthesis and characterization facilities. We have a friendly and dynamic research environment and strong collaborations with many international academic partners.

The appointment begins as at the earliest possible date (approximately April/May 2026) and will terminate at the end of the project (maximum 12 months after start). Gross salary will be Grade N5/1 (non-scientific) according to the scale of the Austrian Academy of Sciences, which is 4.510,15 Euro per month (full time based, before taxes).

Please send your application including a 1-page motivation letter that outlines your skills and experience, a 2-page CV, and degree certificates no later than March 31, 2026.

APPLY NOW

The Austrian Academy of Sciences (OeAW) pursues a non-discriminatory employment policy and values equal opportunities, as well as diversity. Individuals from underrepresented groups are particularly encouraged to apply. The OeAW cooperates with NEBA and is a member of MyAbility in order to provide appropriate workplace structures, in particular for persons with disabilities.

Contact

Daniela Brunner | Daniela.Brunner@oeaw.ac.at

ESI | 8700 Leoben, Austria

Österreichische Akademie der Wissenschaften | Austrian
Academy of Sciences | <https://www.oeaw.ac.at/>

