

## IFW Dresden e.V.



The Leibniz Institute for Solid State and Materials Research Dresden e. V. (IFW Dresden) conducts modern materials research on a scientific basis for the development of new and sustainable materials and technologies. The institute employs an average of 500 people from over 40 nations and, in addition to its scientific tasks, is dedicated to promoting young scientists and engineers. Further information at: <http://www.ifw-dresden.de>.

### **Postdoctoral Research Position (m/f/div) 047-25-2505** on the following topic: Mg-based Sustainable Thermoelectric Cooling Modules

City: Dresden; Starting date (earliest): 01/11/25; Duration: 2 years; Remuneration: TV-L;  
Reference number: 047-25-2505; Closing date: 15/09/25

#### **Working field**

Thermoelectric cooling technology, prized for its solid-state operation, has predominantly relied on bismuth telluride ( $\text{Bi}_2\text{Te}_3$ ). However,  $\text{Bi}_2\text{Te}_3$ -based systems face significant limitations that hinder scalability for future applications. To overcome these challenges, there is a pressing need to develop sustainable, high-performance alternatives. Recent advances suggest that magnesium (Mg)-based materials offer promising thermoelectric properties combined with environmental sustainability. This project, funded by the German Research Foundation (DFG), aims to enhance the performance of Mg-based thermoelectric materials and incorporate them into advanced cooling modules.

We are seeking a highly motivated Postdoctoral Researcher (m/f/div) to join our interdisciplinary team. The successful candidate will be responsible for the synthesis and characterization of thermoelectric materials, and the fabrication and testing of thermoelectric modules. You will be expected to deliver high-quality scientific contributions aligned with the project goals and to publish your findings in leading scientific journals and present them at conferences. Your work will be instrumental in advancing next-generation thermoelectric technologies to support future sustainable energy systems.

#### **Requirements**

We welcome applications from individuals (m/f/div) with a Ph.D. degree (or those expecting to graduate before the appointment date) in Solidstate Physics, Chemistry, Materials Science, or related fields. Prior experience with thermoelectric materials and modules is a valuable asset. We seek candidates (m/f/div) with a strong passion for cutting-edge research, excellent written and verbal communication skills for reporting research outcomes and preparing scientific publications.

## What we offer

- employment in accordance with the collective agreement for the public service of the federal states (TV-L),
- A modern, well-equipped workplace on the campus of the Technische Universität Dresden,
- Flexible, family-friendly working hours,
- 30 days vacation,
- Company pension scheme (VBL),
- Benefits for job ticket/Germany ticket,
- Special annual payment,
- Capital-forming benefits,
- Company health management (back training, health day with various offers),
- discounted sports offers from the Dresden University Sports Center,
- job-related further training opportunities and language courses,
- Company restaurant with a variety of breakfast and lunch dishes.

We offer state-of-the-art facilities at IFW Dresden, providing advanced laboratories and equipment for materials synthesis and characterization. The position provides ample opportunities for professional growth through mentorship, interdisciplinary collaboration, and participation in international conferences. The selected candidate (m/f/div) will receive a salary following TV-L rules (EG13, 100%). The initial appointment is for two years, with the possibility of an extension for an additional one year based on performance. The anticipated start date is November 1, 2025, with some flexibility to commence earlier or within a three-month window thereafter.

In line with our commitment to diversity, we encourage qualified women to apply, as we aim to increase female representation in the field of science. Additionally, disabled applicants (m/f/div) will receive preferential consideration if they meet the requisite qualifications. Promising candidates (m/f/div) will be invited for an interview.

## Application

Please send your application with informative documents (detailed curriculum vitae highlighting relevant research experience, cover letter outlining your motivation and how your expertise aligns with the project, up to three publications that exemplify your work in thermoelectrics or related areas, contact Information for at least two professional references, other relevant documents) exclusively in electronic form and in a PDF file (other formats will not be considered), citing the reference number 047-25-2505, no later than September 15th 2025 to

[bewerbung@ifw-dresden.de](mailto:bewerbung@ifw-dresden.de)

If you have further questions about the position please contact Dr. Pingjun Ying ([p.ying@ifw-dresden.de](mailto:p.ying@ifw-dresden.de)).

More information at <https://stellenticket.de/196713/LUH/>  
Offer visible until 28/08/25

