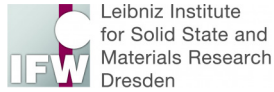


## **Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden (IFW Dresden e.V.)**



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>.

### **PhD position (m/f/d) 006-25-2001**

The Institute for Metallic Materials (Prof. K. Nielsch) of the IFW Dresden offers a PhD position (m/f/d) on the following topic: Sustainable Thermoelectrics for Waste Heat Recovery— Modules.

City: Dresden; Starting Date: At the earliest possible; Renumeration: TV-L; Reference number: 006-25-2001; Closing date: 12/02/25

#### **Working field**

Thermoelectric technology offers a promising solution for waste heat recovery, aiming to greatly enhance energy efficiency and lower CO<sub>2</sub> emissions. This research focuses on the converting waste heat into electrical energy. Traditional materials like Bi<sub>2</sub>Te<sub>3</sub> present challenges due to their reliance on rare elements and limited operational temperature range. Recent studies have shown that materials such as p-type MgAgSb, ZnSb, and n-type Mg<sub>3</sub>(Sb,Bi)<sub>2</sub> and Mg<sub>2</sub>(Si,Sn) hold significant potential. This project aims to improve the performance of these materials and incorporate them into high-efficiency thermoelectric modules that can operate effectively from room temperature up to 550°C. We are inviting one PhD student (m/f/d) to join our interdisciplinary team. The successful candidate will receive comprehensive training in fabricating thermoelectric modules, focusing on segmented modules made from sustainable materials. Your main responsibility will be to produce high-quality scientific results that align with our project objectives. Your work will be crucial in developing next-generation thermoelectric materials and improving the efficiency of future energy systems.

#### **Requirements**

We welcome applications from individuals with an MSc degree (or those expecting to graduate before the appointment date) in Materials Science, Mechanical Engineering, Material Processing, or related fields. Prior experience with thermoelectric modules, electronics assembly, connection technology or FEM simulation is a valuable asset. We seek candidates (m/f/d) with a strong passion for cutting-edge research, excellent communication skills, and the ability to work effectively in a team.

## What We Offer

The contract of employment, including remuneration, is based on the collective bargaining law for the public service of the federal states TV-L EG 13, 28 h/week. The initial appointment is for one year, with the possibility of an extension for an additional two years based on performance. The anticipated start date is April 1, 2025. We offer an attractive workplace with excellent facilities and environment in Dresden. Promising candidates will be invited for an interview.

## Application

IFW Dresden strives for a balanced gender ratio in all areas. In science, IFW Dresden would like to increase the proportion of women and therefore explicitly invites suitably qualified female scientists to apply. The application of severely disabled persons is explicitly welcome.

Please send your application with informative documents (letter of motivation, CV, relevant transcripts, training certificates, and contact details for at least two professional references) exclusively in electronic form and in a PDF file (other formats will not be considered), citing the reference number 006-25-2001, no later than February 12th 2025 to

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

If you have further questions about the position, please contact Prof. Kornelius Nielsch (**[k.nielsch@ifw-dresden.de](mailto:k.nielsch@ifw-dresden.de)**).

Weitere Informationen unter <https://stellenticket.de/190773/>  
Angebot sichtbar bis 08.02.2025

