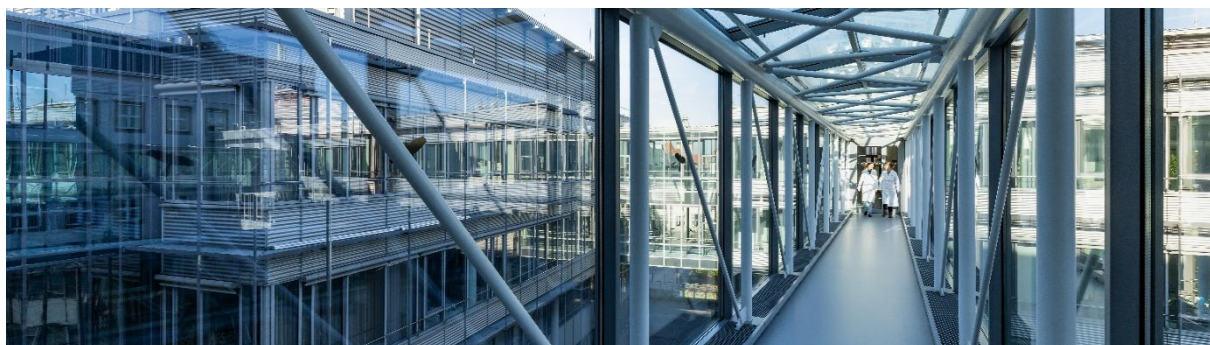


The Leibniz Institute for Solid State and Materials Research Dresden e. V. (IFW Dresden) conducts modern materials research on a scientific basis for the development of new and sustainable materials and technologies. The institute employs an average of 500 people from over 40 nations and, in addition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



The Institute for Metallic Materials of the IFW Dresden offers a

Ph.D. position (m/f/div), TV-L 13, 70 %

on the following topic:

Aerosol-Printed Surface Templates for Area-Selective Atomic Layer Deposition

Project Overview:

- Develop and optimize aerosol printing processes to deposit surface modifiers or seeding layers with controlled chemical functionality.
- Perform area-selective ALD experiments on different patterned substrates to achieve spatially controlled film nucleation and growth.
- Contribute to mechanistic understanding of selective film nucleation via surface–precursor interaction studies.
- Realising electronic devices by patterned ALD deposition.

We are seeking a Ph.D. candidate (m/f/div) to work on the Area-Selective Atomic Layer Deposition (AS-ALD) of different compounds like dichalcogenides, oxides and metals.

The PhD project aims to control the thin film growth by combining aerosol-printed surface modification with area-selective ALD. Specifically, selected materials will be printed on substrates to create localized chemical functionalities that serve as preferential nucleation sites for targeted film deposition. This method enables the fabrication of high-resolution patterns and tailored architectures of functional materials, with potential applications in microelectronics, catalysis, and sensor technology.



Your profile:

We are looking for highly motivated candidates (m/f/div) with a Master's or Diploma degree in Materials Science, Inorganic or Physical Chemistry, Nanoscience, or a related field. Applicants (m/f/div) should have a strong interest in interdisciplinary research, a willingness to engage with the ALD community, and a creative mindset for generating new ideas. Prior experience with ALD is highly desirable. Fluency in spoken and written English is required.

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.

The project duration is limited to three years and will start in **January 2026**. We support and strongly encourage the Ph.D. candidates (m/f/div) to perform a research stay of max 6 months abroad. The salary is based upon the TV-L rules (EG 13, 70 %). Ph.D. candidates (m/f/div) are facilitated to participate in the Ph.D. program to complete their dissertation. We offer an attractive workplace with excellent facilities and environment in Dresden.

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 will be invited for an interview.

Please send your application with informative documents (letter of motivation, CV, Master certificate, 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 **049-25-2001**, no later than **October 15th 2025** to

bewerbung@ifw-dresden.de

If you have further questions about the position please contact Dr. Amin Bahrami (a.bahrami@ifw-dresden.de).