IFW Dresden e.V.

Leibniz-Institut für Festkörper- und Werkstoffforschung Dresden

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 addi-tion to its scientific tasks, is dedicated to promoting young scientists and engineers. Further infor-mation at: http://www.ifw-dresden.de

PhD Position (m/f/d) - Tailoring and exploring metal-sulfide and metal-nitride thin films with enhanced magneto-optical properties 018-25-3500

on the following topic: Tailoring and exploring metal-sulfide and metal-nitride thin films with enhanced magneto-optical properties

City: Dresden; Starting date (earliest): 15/04/25; Duration: 1 Year; Remuneration: TV-L 13; Reference number: 018-25-3500; Closing date: 28/02/25

Working field

Project Background:
Nanostructured functional materials ranging from metals, metal oxides, metal nitrides and metal sulphides that are appealing for many applications in electronics, optoelectronics, quantum technology, photonics, energy are in high demand for future device technologies. Functional materials containing main group metals, transition metals and rare earths are explored in our research group in thin film form employing chemical vapor deposition approaches namely metalorganic chemical vapor deposition (MOCVD) and atomic layer deposition (ALD) routes. Our research projects focus on large scale synthesis of thin films of metals, metal oxides and metal sulfides by MOCVD and ALD using novel precursor chemistries.

Project description:

- Development of new thin film processes (via MOCVD and ALD) for the growth of metal sulfides and metal nitrides
- Optimization of deposition processes to enhance the functional properties (electronic, optical, magnetic, catalytic etc.)
- Comprehensive analysis of thin film materials (via XRD, XPS, Raman spectroscopy, UV-Vis spectroscopy, SQUID, SEM, AFM, TEM etc.).

Requirements

We are looking for highly motivated candidates (m/f/d) with a MSc. degree in Materials Chemistry, Chemical Engineering, Materials Science and Engineering, Materials Processing and related fields. The applicant should have a strong interest in experimental work. Expertise in thin film deposition techniques, vacuum technology, materials

synthesis and materials characterization is expected. Suitable candidates with good experience in characterisation of thin films, including X-ray diffraction, electron microscopy (SEM, EDX and TEM), Atomic Force Microscopy (AFM), X-ray photoelectron spectroscopy (XPS), ellipsometry and Raman spectroscopy is desired for PhD positions. The candidates should have the following skills: fluency in written and spoken English, ability to publish and promote their research, creative, interpersonal skills, problem-solving and teamwork abilities, excellent communication and organizational skills.

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,
- Cooperation agreements with daycare centers to help with childcare shortages,
- 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 contract of employment, including remuneration, is based on the collective bargaining law for the public service of the federal states TV-L EG 13 (65 %) with working hours 26h/week. The initial appointment is for one year with the possibility of extension for additional two years based on the performance. The expected start date is April 15th, 2025

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 disabled persons is explicitly welcome.

Please send your application with informative documents (letter of motivation, which describing the research career goals, 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 018-25-3500, no later than February 28th 2025 to

bewerbung@ifw-dresden.de

If you have further questions about the position, please contact Dr. Harish Parala (office-imc@ifw-dresden.de).

More information at https://stellenticket.de/191634/LUH/
Offer visible until 28/02/25