

The Leibniz Institute for Solid State and Materials Research Dresden – in short IFW Dresden – is a non-university research institute and a member of the Leibniz Association. The IFW employs approximately 600 people and one focus is on the training of young scientists besides enhancing fundamental and applied research development. At the highest international level, the IFW operates modern materials science on a scientific basis and makes the obtained results useful for the economy. The complex and interdisciplinary research work is carried out within the IFW by five scientific institutes, which are supported by a highly developed technical infrastructure. The IFW supports its employees in reconciling work and family life and regularly submits to the *berufundfamilie*® audit. Further information at: <http://www.ifw-dresden.de>

PhD-Position (m/f/d)

Bottom-up fabrication of nanoparticulated topological insulators

The Institute of Metallic Materials at the Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden) offers a PhD position in the field of “Bottom-up fabrication of nanoparticulated topological insulators” starting from January 2021.

The PhD candidate will work in a strongly interdisciplinary field at the interface of material science, and physical or inorganic chemistry. A Master's degree or Diploma degree is required, preferably in the mentioned areas. The work is strongly experimentally oriented. High standards in laboratory work procedures in chemical synthesis are expected. High motivation, proactivity, quick learning, solution-oriented thinking and very good English skills are required to successfully bring forward the PhD work. Good German skills are beneficial.

During the PhD work, the candidate will be able of chemically synthesizing nanoparticles of binary and ternary 3D topological insulator materials (e.g. Bi_2Te_3 , Bi_2S_3 , $\text{Bi}_2\text{Te}_2\text{S}$, $\text{Sb}_2\text{Te}_2\text{Se}$) from solution. This work will also emphasize aspect of surface modification on the atomic scale of the nanoparticle surface. Together with the material synthesis the candidate will compact the materials into nanograined pellets, and perform microstructural, thermoelectric and chemical analysis of the pellets. A large part of the work will be performed in glove-box environments with strictly controlled atmosphere.

The candidate will be incorporated in a structured PhD Program with dedicated mentoring and technical training by experienced scientists and technicians. The candidates will be integrated in the community of PhD students of the IMW, for knowledge exchange and mutual support. During the duration of the PhD, the candidates are encouraged to perform stays abroad, visiting laboratories in foreign countries for periods of up to 6 months.

We offer:

The employment contract is primarily limited to 12 months and will be extended by another 2 years upon a successful mid-term evaluation. The salary is based upon the TV-L rules (E13; 65%).

The institute promotes the professional equality between all genders. In science, the IFW Dresden would like to increase the proportion of woman. Qualified women are therefore explicitly invited to apply. Equally qualified handicapped applicants will be given preference.

Your application:

Please send your application including a cover letter with motivational statement, CV, copies of certificates, published articles and other relevant material (if applicable) quoting the reference number **003-20-2501** in a single PDF file exclusively to:

bewerbung@ifw-dresden.de

Deadline for applications: **15 November 2020**

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