At the Institute for Metallic Materials (IMW) of the IFW Dresden, we offer a **Doctoral Researcher Position** on the topic

**3D Mapping of Spin Textures in Skyrmions.**

The position is supposed to be filled at the next possible occasion.

**Your profile:**
We are looking for a highly motivated and team-oriented student, who holds a Master degree in physics or material science. Basic knowledge in magnetism and/or some experience in transmission electron microscopy are welcome though not mandatory. The successful candidate is open-minded, curious and ready to work in a strongly interdisciplinary environment. Very good communication skills in written and spoken English are required.

**Project description:**
Skyrmions are topologically non-trivial vortex-like magnetic micro-structures that have recently gained particularly large interest as they play a key role in modern concepts of ultra-fast and ultra-high density data storage. While already inherently complex in structure, recent investigations indicate that they are in addition inhomogeneous and exhibit a 3-dimensionally modulated spin texture, the nature of which is currently still under debate. In order to shed some light on this situation, the current PhD project aims at retrieving the 3D magnetic structure experimentally using transmission electron microscopy. Within this project Lorentz microscopy and electron holographic tomography will be used to quantitatively map the magnetic induction in 3D. A comparison of the experimental findings with recent theoretical models is envisioned to provide for substantial new insight into the topic. The here announces PhD project will not only profit from the rich experimental infrastructure and a landscape of scientific excellence provided by the IFW Dresden and the TU Dresden but will also be embedded in a national network of researchers dedicated to this topic.

For further information please contact: Prof Dr. Kornelius Nielsch (k.nielsch@ifw-dresden.de)
See also: [http://www.ifw-dresden.de/de/institute/institut-fuer-metallische-werkstoffe-imw/](http://www.ifw-dresden.de/de/institute/institut-fuer-metallische-werkstoffe-imw/)

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.

The IFW would like to increase the proportion of women in science. Qualified women are therefore explicitly invited to apply. Severely disabled applicants are given preferential treatment if they have the same qualifications.

Applications including a CV, copies of degrees and grades, a copy of your Master thesis (or a draft thereof), published articles or other relevant material (if applicable) quoting the reference number **SPP2137-01/18** as a single pdf-file to: bewerbung@ifw-dresden.de