Ph.D Position (f/m) in Tribology (80%)

Job description: The majority of tribological systems in technical applications are lubricated with fluids, which are mostly oils and greases. In cases where lubrication with oil or grease is not possible, e.g. because the lubricant evaporates in a vacuum, a solid is applied to the component surfaces as an alternative. In this project we want to investigate rolling bearings lubricated by graphene and graphite and within this project your task is to perform microscale experiments to unravel fundamental mechanisms of solid lubrication. Using Microtribometers and surface analytical techniques you will target the following questions:

- What are the mechanisms of transfer layer build-up
- Which mechanisms determine the friction between solid lubricant and transfer layer
- What are the wear mechanisms of graphene layers.

The position is funded through the priority programme 2074 of the Deutsche Forschungsgemeinschaft DFG. The group is part of the MicroTribology Center (μTC) which bundles tribology related research activities at KIT-IAM and Fraunhofer IWM. The experiments will be performed at the brand-new, well-equipped laboratory of the μTC in Karlsruhe.

Qualification: You must have an MSc (or equivalent) with a strong focus on Material Science, Physics or Physical Chemistry. Additional knowledge of Surface Physics, Tribology, and additionally software skills (Labview, Phyton, Matlab, Origin) is an asset.

We offer: We offer an attractive and modern workplace with access to excellent facilities of KIT, diverse and responsible tasks, a wide scope of advanced training options, supplementary pension with the VBL (Pension Authority for Employees in the Public Service Sector), flexible working time models, a job ticket (BW) allowance, and a cafeteria/canteen.

Salary: The remuneration occurs on the basis of the wage agreement of the civil service in TV-L, E13.

Institute: Institute for Applied Materials – Computational Materials Science (IAM-CMS)

Contract duration: limited up to 3 Years

Starting date: as soon as possible

Application up to: 31.12.2018

Contact person in line-management: For more information please contact Prof. Dr. Martin Dienwiebel, Email: martin.dienwiebel@kit.edu
**Application:**

Interested candidates are asked to send a cover letter, curriculum vitae, transcripts and contact information for at least one academic reference to the IAM-CMS front office reachable at officeCMS@iam.kit.edu

We prefer to balance the number of female and male employees. Therefore we kindly ask female applicants to apply for this job.

If qualified, handicapped applicants will be preferred.

**Karlsruhe Institute of Technology**

**Personalservice**

KIT is certified as a family-friendly university (familienfreundliche Hochschule) and offers part-time employment, leaves for family-related reasons, dual career options, and individual coaching for family-work balance.