

Scientist researcher m/f

Code no. 2013/WM 1

The place of employment is Dortmund (TU Dortmund).

The Helmholtz-Zentrum Geesthacht in Geesthacht, near Hamburg, and in Teltow, near Berlin, conducts materials and coastal research. You can find more information at <http://www.hzg.de>.

On July 1, 2012 the new Collaborative Research Centre (SFB 986) "Tailor-Made Multi-Scale Materials Systems – M³" was established at the Hamburg University of Technology (TUHH). In the SFB 986 the TUHH, the Helmholtz-Zentrum Geesthacht and the University of Hamburg are participating. The SFB 986 is set to both develop and manufacture multi-scale structured materials with tailor-made mechanical, electrical, and photonic properties. Three interconnected project areas investigate this innovation potential:



- A: Quasi-self-similar hierarchical materials systems
- B: Nano-structured multi-phase materials systems, and
- C: Materials systems for photonics at high temperatures.

An integrated graduate school promotes networking and interaction among the early-career scientists within the SFB 986.

Our Institute of Materials Research in Geesthacht invites applications for a Scientific researcher position m/f. The position is initially limited for one year with the possibility of an additional three-year-extension (starting as soon as possible)

Project B3 is concerned with the development of physical sound models capturing the mechanical response of material interfaces at the macroscale. In this connection, a multiscale approach is to be elaborated which links density functional theory to continuum mechanics. By doing so, the macroscopic model is informed from an initio simulation and consequently, the macroscopic mechanical response of interfaces can eventually be systematically optimized by modifying the electronic structure at the interface.

Scope of work:

- fundamental research in the area of numerical mechanics, material modeling, homogenization theory and implementation of models and simulation within the scope of the Finite Element Method
- the envisaged research subjects which are linked with this position lay in the field of non-linear mechanics of interfaces and the link to density functional theory

Profile:

- successfully completed scientific studies at university level in either mechanical engineering, civil engineering, material science, physics, mathematics or similar field of studies
- advanced knowledge in continuum mechanics, material theory, Finite Element Methods, related programming experience and very good knowledge of English and German
- above-average commitment, own initiative and the capability to independently carry out scientific work, good communication skills and ability to adapt to a team in an interdisciplinary surrounding

We offer an appropriate salary related to TV-AVH as well as the usual public sector social benefits. The advancement of equality at the Helmholtz-Zentrum Geesthacht goes without saying; in particular, we are striving to increase the percentage of women in the science sector. Severely disabled persons with equal qualifications will be considered preferentially within the framework of legal requirements.

Please send your application indicating code no. **2013/WM 1** to **Helmholtz-Zentrum Geesthacht, Max-Planck-Straße 1, 21502 Geesthacht, Germany**, or preferably to the e-mail-address: **personal@hzg.de** (as single pdf-file including CV, a statement of interest and references). Closing date for applications is **April 24th, 2013**.