

The mission of the BAM Federal Institute for Materials Research and Testing is to deploy technology in a safe and environmentally friendly way. Our research, testing, approval, and regulation activities are intended to promote safety in engineering and chemistry. As a superior federal authority and departmental research establishment of the Federal Ministry of Economics and Technology (BMW i), with 1700 employees, we have national and international responsibilities, cooperate with university and non-university research institutions and encourage young academics.

17.09.2012

Vacancy for a PhD position

in division 7. „Safety of Structures“,
in Berlin-Lichterfelde, Germany

Salary bracket 13 TVöD with usual public sector benefits

Fixed term contract for 18 months
with an optional extension for another 18 months

Scope of work:

This project is concerned with the development of a multiscale framework for the simulation concrete under high cycle fatigue loading. The degradation of material properties is modeled and an estimate of the durability and the expected lifetime is given. Based on preliminary experimental results the following aspects should be investigated

- development of a mesoscale model for concrete taking into account the heterogeneous microstructure
- implementation of a damage/plasticity model for high-cycle fatigue loading
- development of a spatial and temporal Multiscale framework
- validation with experimental data

Profile:

- successfully completed scientific studies at university level in either civil engineering, mechanical engineering, material science, physics, mathematics or similar fields
- advanced knowledge in continuum mechanics, fracture mechanics, Finite Element Methods or related mathematical models
- ability to solve complex problems and related programming experience (MATLAB, C++)
- 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
- very good knowledge of English, knowledge of German is an advantage

For further information, please contact:

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BAM Federal Institute for Materials Research and Testing commits to equal treatment of women and men. 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 (including CV, a statement of interest and references) indicating **reference no 155/12 – 7.** to BAM Bundesanstalt fuer Materialforschung und -pruefung, Referat Z.3, Unter den Eichen 87, 12205 Berlin, Germany.
Closing date for applications is **October 5th 2012.**