

The Department of Civil and Environmental Engineering with the working group "Reservoir Engineering and Rock Physics" of the University of Applied Sciences (Hochschule Bochum) is looking for the next possible date for a

Scientific Assistant (m/f/d) (PhD student)

with the focus on "High-performance simulations of wave propagation for structural investigations of concrete". Within the framework of this project, a cooperative PhD is foreseen.

Project Description:

The project "Concrete Damage Assessment by Coda Waves (CoDA)", funded by the DFG, is entering its 2nd phase (<https://www.mae.ed.tum.de/en/coda/home/>). The aim of the project is the further development of the so-called CODA method for a targeted damage detection on concrete components. It should be possible to differentiate between the various stresses caused by temperature, moisture and pressure or vibration. In the subproject located in Bochum, simulations of wave propagation in concrete and various passive seismic methods are applied and further developed.

Tasks/Activities:

- Simulations of wave propagation in concrete
- Intensive numerical investigations to test algorithms for the evaluation of transducer data
- Evaluation of transducer data (beamforming)
- Close technical coordination with national and international project partners
- Preparation of interim and final reports, publication of results in scientific journals
- Participation in technical conferences, project meetings, etc.

Requirements:

- Scientific university degree, preferably as geophysicist or equivalent
- Knowledge in the fields of seismology and numerical simulation
- Very good knowledge of written and spoken English (knowledge of German is not mandatory)
- Practical experience with Matlab, Heidimod (seismic wave propagation) or equivalent software desired
- Knowledge of high-performance scientific computing is desirable.

The position is limited to 3 years and is evaluated according to pay group 13 of the contract for the public service of the federal states (TV-L). The position is part-time with 75% of the regular weekly working time of full-time employees (currently 29 hours and 52 minutes).

We would like to have more female scientists at our university and are therefore particularly pleased to receive applications from women. Since April 2008, Bochum University has been certified as a family-friendly university. Applications from severely disabled persons or persons with equal rights in the sense of SGB IX are expressly welcome.

Mr. Erik Saenger, erik.saenger@hs-bochum.de, will be happy to answer any questions you may have.

Applications will be accepted until March 31, 2022 exclusively via our online application portal at www.hs-bochum.de/stellen. (Please note: This system is in German language; click on: "[Wissenschaftliche Mitarbeiterin / wissenschaftlicher Mitarbeiter bzw. Doktorandin / Doktorand \(m/w/d\) mit dem Schwerpunkt: Höchstleistungs-Simulationen der Wellenausbreitung für Strukturuntersuchungen in Beton](#)")