Stellenticket

Technische Universität Braunschweig - Institute of Building Materials, Concrete Construction and Fire Safety, Division of Building Materials,

With more than 15,000 students and 3,800 employees, the Technische Universität Braunschweig is one of Germany´s leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities. Our research focuses are mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities. Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighborhood as we do with our international partner universities. Starting from the earliest possible date, the Institute of Building Materials, Concrete Construction and Fire Safety, Division of Building Materials, is looking for a

Head of 1H-NMR Hub (Senior researcher / Postdoc; m/f/d)

(EG 14 TV-L) The position is initially limited to three years, with the aim of continuing employment. The position is an employee position. The fixed-term employment is within the scope of the fixed-term employment options provided for in the German Academic Fixed-Term Contract Act (Wissenschaftszeitvertragsgesetz). FatResCon is an ERC Synergy Grant project funded by the European Research Council (https://fatrescon.eu/) that aims to uncover the microstructural origins of concrete fatigue and develop predictive tools that enable the design of durable, eco-efficient infrastructure with extended service life. The postdoctoral researcher will be part of international, multi-disciplinary team of 22 researchers at Technische Universität Braunschweig, RWTH Aachen University, Brno University of Technology, and Vienna University of Technology. The team at our Division of Building Materials focuses on understanding and predicting the hydration behaviour of eco-efficient binders, with a particular emphasis on the impact of load-dependent water redistribution in relation to binder chemistry. To characterise the pore structure of these systems, we currently use a single-sided NMR-MOUSE® and a TD-NMR (MQC-R, Oxford Instruments). As part of the FatResCon Project, we plan to purchase an additional tailor-made, high-precision 1H NMR unit.

City: Braunschweig; Starting date (earliest): At the earliest possible; Remuneration: EG 14 TV-L; Closing date: 17/04/26

Tasks

- Establishing and maintaining a 1H NMR hub for construction materials.
- Development of a novel approach based on 1H NMR relaxometry to examine water distribution in eco-efficient binders, focusing on pore structure and hydrates.
- Writing scripts for computing the numerical inversion of the NMR data to obtain relaxation-time distribution.
- Present research findings at national and international conferences.
- Supervision of student projects and contribution to teaching activities.

Requirements

- Completed PhD in physics, physical chemistry, materials science, crystallography or in a related field.
- Experience in NMR spectroscopy or relaxometry with a particular focus on method development and data processing.
- Ideally, prior practical experience with 1H NMR relaxometry of porous media.
- Excellent proficiency in English, both written and spoken.
- Flexibility and willingness to collaborate in a dynamic and diverse team. An open approach to work across disciplines and the ability to communicate ideas constructively are essential.

What we offer

- Work on exciting future-oriented research topics in an inspiring work environment as part of the university community
- A vibrant campus life in an international atmosphere with lots of intercultural offers and international cooperations
- Fulltime-job, pay in accordance with the collective agreement TV-L (a special payment at the end of the year as well as a supplementary benefit in the form of a company pension, comparable to a company pension in the private sector) including 30 days' vacation per year
- Flexible working and part-time options and a family-friendly university culture, awarded the "Family-friendly university" audit since 2007
- Special continuing education programs for young scientists, a postdoc program, as well as other offerings from the Central Personnel Development Department and sports activities.

Application

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (Niedersächsisches Gleichberechtigungs-gesetz—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen.

Application costs cannot be reimbursed.

Questions and Answers
For more information, please call Professor Matschei on +49 (0) 241 80-95103.

Deadline for applications is April, 17th 2026

Interested candidates should submit electronic applications in English to positions(at)fatrescon.eu, including:

- Curriculum vitae (CV) detailing your research experience and additional relevant information (e.g., awards, internships, qualifications).
- Letter of motivation (maximum one page)
- Bachelor's and Master's degree certificates, including transcripts of academic.
- Copy of your Doctoral thesis.
- Recommendation letter from a supervisor.
- Link to a 5-minute video, in which you discuss your motivation, highlight key aspects of your Doctoral thesis, and explain how you could contribute to the project specified in your letter of motivation.

More information at https://stellenticket.de/202247/TUBS/
Offer visible until 17/04/26