TUD Dresden University of Technology, as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. It develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

The Center for Information Services and High Performance Computing (ZIH) offers a project position within the research project "Scalable and High-Performance Storage Access for Exascale Supercomputers (MCSE)" as

**Research Associate for Parallel Storage Systems and Access Methods (m/f/x)**
(subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting as soon as possible. The position is limited until September 30, 2025. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

The goal of the MCSE project is the elimination of the hard separation between main memory and storage. It aims to design overarching execution models and interfaces for this purpose and addresses the latest RAM, NVMe, and storage technologies. Target applications are distributed workflows and highly parallel supercomputer applications. This project offers access to latest hardware and large-scale HPC resources, at ZIH as well as at the partners.

**Tasks:**
- analysis of existing hardware and software technologies
- research, testing, and evaluation of memory/storage access methods and libraries
- research and design towards novel low level APIs
- evaluation of performance and scalability on Petaflop and Exaflop level using relevant standard benchmarks and highly parallel scientific simulation codes (in collaboration with their authors)
- publications in conferences and journals, documentation and presentation of results.

**Requirements:**
- university degree in computer science, electrical engineering, applied mathematics, or a comparable engineering or natural science with relation to scientific computing
- knowledge in distributed storage systems, parallel I/O, storage architectures, storage protocols and networking
- very good knowledge and experience in programming with C/C++ and system-level/kernel programming (additional languages and script languages are a plus.)
- practical experience using HPC systems and working under Linux
- high degree of independence, commitment, communication skills, and team spirit
- confident command of the German or English languages, both written and spoken, at least basic knowledge of the other language.
We offer: The ZIH is one of nine national centers for high performance computing (NHR). We offer highly interesting and creative tasks to current scientific topics, a modern data center infrastructure, flexible working hours, a family-friendly working environment, and living in a city of science and culture surrounded by a unique landscape.

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university and offers a Dual Career Service. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Please submit your detailed application with the usual documents under the job ID “MCSE” by March 18, 2024 (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to zih@tu-dresden.de or to: TU Dresden, ZIH, Herrn Prof. Dr. Wolfgang E. Nagel, Helmholtzstr. 10, 01069 Dresden, Germany. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website: https://tu-dresden.de/karriere/datenschutzhinweis.