The Center for Information Services and High Performance Computing (ZIH) is offering the following position as part of the NHR center (National High Performance Computing) of TU Dresden starting as soon as possible.

**Research Associate for Software Tools for Performance Analysis of High Performance Computing, Data Analytics and AI (m/f/x)**

(subject to personal qualification according to salary group E 13 TV-L)

initially until December 31, 2025 with the option for extension. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz - WissZeitVG). Balancing family and career is an important issue. The position is generally suitable for candidates seeking part-time employment. Please indicate your request in your application.

As competence center for High Performance Computing (HPC), ZIH has been providing access to substantial HPC resources to researchers from a wide range of areas and supporting them in their efficient and highly scalable use for scientific computing since 2005. In addition, ZIH does extensive methodological research and cooperates in numerous projects with national and international partners. Since 2021, ZIH has been one of nine National Centers for HPC (NHR), providing HPC services throughout Germany. We offer highly interesting and creative work topics in current research areas, a state-of-the-art IT infrastructure, flexible working hours, and a family-friendly working environment and life in a city of science and culture surrounded by a unique landscape.

**Tasks:**

- conceptual design, further development and deployment of software tools for measurement, analysis, and optimization of parallel performance and scalability
- research on software tools as well as instrumentation or monitoring methods for performance measurement of parallel application code regarding compute speed, memory bandwidths, communication, I/O, energy efficiency and other aspects
- application for (highly) parallel simulation and data analytics use cases in close collaboration with application area researchers
- analysis and estimation of optimization potentials, scientific consultation with the tuning process, evaluation of results
- extension and maintenance of existing software tools, mostly as Open Source software and provide software in suitable ways for the worldwide HPC community
- scientific consultation and subject-specific support for application area researchers in the HPC environment
- conducting national and international training courses and tutorials
- documentation, publication and presentation of scientific results.

**Requirements:**

- university degree in computer science, electrical engineering, mathematics or a comparable engineering or natural science
- practical knowledge and experience in operating and administration of HPC systems and working under Linux
- solid knowledge in parallel programming
- fluency in German and English
- communication skills, especially with partners from different fields; ability to familiarize with interdisciplinary and specialized scientific topics
- high degree of independence, commitment and flexibility.

Applications from women are particularly welcome. The same applies to people with disabilities.
Please submit your application with the usual documents under the job ID "NHR 11" until **August 29, 2022** (stamped arrival date of the university central mail service applies), preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) as a PDF document 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](https://tu-dresden.de/karriere/datenschutzhinweis)