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 Faculty of Computer Science at TU Dresden (https://cs.tu-dresden.de) is among the oldest computer science faculties in Germany with outstanding scientific performance and technology leadership. It is home to 28 professors, 300 researchers and over 2300 students from all over the world. Computer Engineering is one of the strategic research priority areas of the faculty. The faculty is leading in HPC and AI with several Centers of Competence on the national and international level, and it consistently ranks among the best computer-science faculties of Germany.

At the Faculty of Computer Science, the Institute of Computer Engineering invites applications for the Chair (W2) of Emerging Computing Technologies to be filled at the earliest possible date.

You (m/f/x) will perform research in emerging computing technologies and their adaptation to High-Performance Computing (HPC), data analytics, and Artificial Intelligence (AI). The chair is linked to the function of Chief Technology Officer (CTO) of the Department Center for Information Services and High Performance Computing (ZIH, https://tu-dresden.de/zih), which is part of the newly founded Center for Interdisciplinary Digital Sciences (CIDS, https://tu-dresden.de/cids). At the same time, the chair is designated as a deputy to the Director of the ZIH, with the option of heading a HPC department at the ZIH.

The ZIH is the central provider of IT services at TUD and one of the nine centers of the National High Performance Computing (NHR) infrastructure of Germany. As such, it receives long-term funding for HPC hardware purchases and personnel, and it serves scientists at academic research institutions across Germany. It is running the state-of-the-art and highly energy-efficient Lehmann Center Data Center (LZR) with an outstanding HPC infrastructure. The ZIH also conducts research in various third-party funded projects on a range of topics in computer science and scientific computing.

As the future chair holder, you will establish an independent and internationally visible research profile in innovative approaches to computing for future HPC systems. This in particular includes, but is not limited to:

- In-memory computing,
- Accelerator technologies (FPGA, tensor cores, etc.),
- Quantum computing,
- Emerging storage technologies (racetrack memory, NVRAM, etc.).
Emphasis is on technologies that are inspired by real-world applications and have a practical impact. As CTO of the ZIH, the new chair will also support the fields of HPC, AI, and possibly Quantum Computing at TUD and benefits from the relevant infrastructure for prototyping and testing its research architectures at scale.

Besides cooperation within the Faculty of Computer Science and the School of Engineering, close collaborations are desired with the DRESDEN-concept partner institutions, with the Clusters of Excellence of TUD, and within CIDS, in particular with the Federal Center of Competence for Big Data and AI, ScaDS.AI (https://scads.ai), to close the technology gap between big data, data analytics, HPC, and AI. We explicitly encourage interdisciplinary cooperation with natural scientists, mathematicians and scientists from the life sciences, medicine, environmental sciences, earth sciences, and engineering.

You will represent the area of appointment in research and teaching. Teaching obligations are reduced to four semester hours per week. This includes courses in German or English in the area of appointment for the curricula of the Faculty of Computer Science. The responsibilities also include participation in academic self-administration and in the academic committees of the Faculty of Computer Science, the CIDS, and the TUD.

You are internationally renowned in one of the mentioned research fields and have experience relevant to scientific HPC, as well as experience in university-level teaching. Special emphasis is placed on visible and disruptive international publications as well as on active participation in collaborative interdisciplinary research, the successful mentoring of early-career scientists, and the independent acquisition and management of research funding. The applicant is expected to have substantial experience in the supervision of Ph.D. students and proven excellent teaching abilities.

The requirements for appointment, the official duties and the administrative status are governed by §§ 59, 69, 71 of the Act on Higher Education Institutions in the Free State of Saxony (SächsHSG) and the Saxon Regulation on Official Duties at Higher Education Institutions (DAVOHS).

For questions, please contact the Dean of the Faculty of Computer Science, Prof. Dr. Ivo F. Sbalzarini, tel. +49 351 463-32815; email: dekan.inf@tu-dresden.de, as well as the Director of the ZIH, Prof. Dr. Wolfgang E. Nagel, tel. +49 351 463-35450; email: wolfgang.nagel@tu-dresden.de.

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. If you have any questions about these or related topics, please contact the Equal Opportunities Officer of the Faculty of Computer Science (Dr. Iris Braun, iris.braun@tu-dresden.de, Tel.: +49 351 463 38063) or the Representative of Employees with Disabilities (Mr. Roberto Lemmrich, schwerbehindertenvertretung@tu-dresden.de, Tel.: +49 351 463-33175).

We look forward to receiving your application by August 8, 2024 (time stamp on the email server or the stamped arrival date of the University Central Mail Service of TUD applies). Please attach the following documents to your letter of application: curriculum vitae in tabular form, description of your scientific career, list of publications, list of third-party funded projects and previous teaching activities including the results of the teaching evaluations (preferably of the last three years), a research (max. 3 pages), integration as well as teaching concept (max. 1 page each) as well as a copy of the certificate of your highest academic degree.
We kindly ask you to submit your application by email. Please use the SecureMail Portal of TUD (https://securemail.tu-dresden.de) and send your documents in a single PDF document to: dekanat.inf@tu-dresden.de. If you are applying by regular mail, please also attach your application documents in electronic form (CD or USB thumb drive) and send them to: TU Dresden, Dekan der Fakultät Informatik, Herrn Prof. Dr. Ivo Sbalzarini, Helmholtzstr. 10, 01069 Dresden, Germany.

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.