You are looking for an employer you can count on? Join us!

The Quantum Computing and Technologies Department (QCT) at LRZ is a team of computer science and quantum physics specialists researching, advancing and providing quantum computing technologies for local and international advanced computing communities. The QCT team provides scientific users with a broad portfolio of quantum resources and services, including quantum simulators, remote access to quantum hardware, on-premise quantum systems, development environment tools, scientific consultancy, and education/training. A main forcus of this team is the research and development of integration pathways for quantum acceleration capabilities for next- generation high-performance computing (HPC) systems. Read more at quantum.lrz.de.

As a member of the LRZ Q-Crew, you're in the driver's seat developing and providing new tools and methods, working with cutting-edge hardware technologies; and developing the Munich Quantum Software Stack including programming models, OS, compilers and abstraction layers for multiple quantum technologies based on superconducting, neutral and ion qubits. You are pivotal for building unique solutions merging quantum and HPC workflows, advancing the community's research capabilities, and in propelling Bavaria as a global quantum hotspot pushing the boundaries of innovative scientific discoveries achievable with quantum-accelerated computing.

We're actively seeking a position for:

Compiler Engineer (f/m/d)
for HPCQC Integration

Your Role and Responsibilities:

You are a **Compiler Engineer** with a strong interest in **quantum computing** to continue the development and integration of a cutting-edge compilation framework within the Munich Quantum Software Stack (MQSS). This role is crucial for advancing our solution for compiling quantum jobs through the use of modern compiler infrastructure.

- Design and implement components for compiling quantum programs within a hybrid quantum-classical workflow.
- Integrate and extend various **MLIR dialects** to support a broader range of quantum and classical operations.
- Work across the full compilation pipeline, from **front-end parsing** and **intermediate representations** to **backend code generation** and runtime integration.
- Engage with the Munich Quantum Valley (MQV) developer and user communities to understand and translate their requirements to our software development requirements.

Basic Qualifications:

- Strong experience with compiler development and familiarity with LLVM (particularly MLIR).
- Proficiency in C++ and Python.
- Understanding of quantum computing paradigms is a strong plus.
- Experience with end-to-end software development, including debugging and optimization.
- Ability to work collaboratively in an academic or research-oriented environment.
- Great team member skills, able to work well with others internally and across institutional boundaries, self-starter spirit and a drive to figure things out when faced with uncertainty.

Preferred Qualifications:

- Experience with, for example, CUDA-Q, Catalyst, QIR, or quantum-classical programming models.
- Knowledge of HPC systems and cloud-based execution environments.

Area	Quantum Computing
Working time	Full time (40 hrs) flexible working model with electronic time recording
Term of the contract	30.11.2027 months, a further employment is intended
Remuneration	up to E 13, see Entgelttabelle TV-L
Annual leave / compensatory time off	30 days (24.12. + 31.12. additionally day off) Overtime is compensated by additional time off
Further trainings	Individual support for in-service training and further education
Mobile work	up to 60% of work time, when applicable
Benefits	e.g. bus and subway (U6) on the doorstep, free parking, pension plan of the Versorgungsanstalt des Bundes und der Länder (VBL), state-of-the-art work equipment

What can you find with us?

Are you looking for a multifaceted and intellectually stimulating position in a dynamic, cooperative and innovative work environment? Then LRZ is the place to be for you! Here at LRZ a collegial, appreciative work environment meets an international crowd of experts who work together to advance IT services for ground-breaking research. We offer flexible work schemes for an optimal work-life balance. Our staff values their creative leeway. As an institute of the Bavarian Academy of Science and Humanities we offer all the benefits of public service. And of course, no wishes remain unfulfilled at the LRZ in terms of technical equipment. We share experiences, constantly review and improve our processes, and are proud that our service-quality and data-security are regularly certified and rated highly. We actively promote diversity and welcome applications from talented individuals, regardless of cultural background, nationality, ethnicity, gender and sexual identity, physical abilities, religion and age. We give priority to applications from people with disabilities who are equally qualified (SGB IX).

The LRZ in a nutshell:
Since 1962, Bavarian universities and research institutions have relied on the IT expertise of the Leibniz Supercomputing Centre of the Bavarian Academy of Sciences and Humanities. When it comes to the digital transformation of science, we are traditionally ahead of the game.

We look forward to receiving your complete application documents (including cover letter, CV and certificates) in a PDF file (other file types are not accepted) by latest **24.08.2025.**

Subject: **QC-SWSR (2025/30)**

Are you unsure whether the job suits you or you suit us? Or do you still have questions about this position? Our colleagues will be happy to answer all your questions.

This job does not fit? Then take a look at https://www.lrz.de/karriere or send us an unsolicited application!

Here you will find information about the collection of personal data during the application process.

charta der vielfalt
UNTERZEICHNET

Familienpakt
Bayern