Exploring novel ways for quantum computing with superconducting qubits

Exploring and developing novel types of superconducting qubits to build a scalable quantum computer – this is a goal of the recently formed Munich Quantum Valley. To reach this goal we are searching for a

PostDoc in Quantum Computing (m/f/d)

to join our team at the Walther-Meißner-Institute (WMI – wmi.badw.de). If your aim is to advance superconducting quantum computing by pursuing innovative new ideas and you have already gained specific expertise in fabricating and/or operating superconducting qubits, we would be happy to receive your application. You will work with a growing team focusing on quantum computing and quantum technologies embedded in the diverse research activities at the WMI and the close-by TU Munich (tum.de). You will take on responsibility in the design, fabrication and/or characterization of superconducting quantum circuits. In addition, you will closely collaborate with other participating university groups, research institutes and industry partners.

The environment. The WMI is an institute of the Bavarian Academy of Sciences and Humanities (BAdW) located at the Campus Garching near Munich. It carries out fundamental and applied research focussing on superconducting quantum circuits for quantum information processing as well as hybrid devices and spin transport in magnetic materials. It plays a key role in the highly visible Munich research efforts on quantum science such as in the MCQST excellence cluster (mcqst.de) with world-class research groups at both Munich universities and the Max-Planck Institute of Quantum Optics. The WMI coordinates the superconducting qubit activities in the Munich Quantum Valley (MQV – munich-quantum-valley.de), an alliance of the Bavarian Academy of Sciences, the Fraunhofer Society, the Ludwig Maximilian University of Munich, the Max Planck Society and the Technical University of Munich. The main goals of the MQV are to build a quantum computing system based on different platforms, to develop suitable algorithms and application, and to establish an ecosystem for innovative quantum technologies.

Your skills. You have a solid background in experimental quantum information processing with superconducting qubits. You are an expert in operating systems for quantum information processing with excellent skills in instrumentation and measurement and/or expertise in micro- and nanofabrication.

In addition, you have one or more of the following skills:

- Expertise in modelling of superconducting quantum circuits and microwave engineering using FEM simulation tools.
- Expertise in thin-film deposition and lithography.
- Know-how in integration technologies for scalable quantum processors.
- Experience in cryogenics and the operation of dilution refrigerators.
- Proficiency in coding of control and analysis software (preferably in Python).
- Ability to conduct independent work and assume responsibility within a larger team.
- Curiosity and eagerness to learn independently about new areas and technologies.
- Strong communication and writing skills.

Diversity. We are determined to build an inclusive culture that encourages and values the diverse voices of all members of our research team embracing the full diversity of gender identities, cultures and ideologies to do excellent research. Disabled candidates with equal qualification and aptitude will be given preferential consideration according to the SGB IX.

How to apply. If you have the right skill set and you are motivated to join the team, please send us your documents including your CV, a publication list and a brief motivation letter in a single PDF file to Martina Meven (sekretariat@wmi.badw.de) mentioning the code '2021-SF-PD02'. The contract duration will initially be limited to two years with the intention for further extension and the potential for tenure. The position is available immediately with a salary based on the federal wage agreement (depending on qualification up to TV-L E14). Applications will be taken into consideration until Dec 12, 2021.

Data Protection Information. When you apply for a position with the BAdW, you are submitting personal information. Please take note of the data protection information on collecting and processing personal data contained in your application in accordance with Art. 13 of the General Data Protection Regulation (GDPR). By submitting your application, you confirm that you have acknowledged the above data protection information of the BAdW. Please visit badw.de/die-akademie/service-und-jobs.html#c3843 for more information.