



Conducting research for a changing society: This is what drives us at Forschungszentrum Jülich. As a member of the Helmholtz Association, we aim to tackle the grand societal challenges of our time and conduct research into the possibilities of a digitized society, a climate-friendly energy system, and a resource-efficient economy. Work together with around 7,500 employees in one of Europe's biggest research centres and help us to shape change!

Supercomputers help us to find solutions to major scientific challenges and are indispensable for modern research. The Jülich Supercomputing Centre (JSC) operates one of the most powerful computer systems for scientific and technical applications in Europe and makes it available for research purposes to scientists at Forschungszentrum Jülich, in Germany, and throughout Europe. The Jülich UNified Infrastructure for Quantum computing (JUNIQ) integrates quantum computers (QC) and quantum annealers in the form of quantum-classical hybrid computing systems into the modular high performance computing environment of the JSC. In co-operation with the research group for Quantum Information Processing of the JSC, JUNIQ is involved in several cutting-edge research activities developing QCs and quantum algorithms as well as provides access to latest QC technology for researchers and industrial partners. We are looking for a postdoc researcher who wants to contribute to one of the most exciting and currently fastest developing research areas.

**We are looking to recruit a**

## **Postdoc for Quantum Computing - Algorithms, Benchmarking and Simulations**

### **Your Job:**

- Developing and implementing QC algorithms (QAA, QAOA, QSVM), quantum AI algorithms, use case adapted algorithms to test and benchmark latest technology focusing on gate-based QC
- Advancing JUNIQ's user platform by integrating QCs into the Modular Supercomputer of JSC
- Developing and conducting trainings for QC users
- Collaborating with project partners from academia and industry
- Presenting research outcomes to project stakeholders and the research community at meetings, conferences and by publishing in high-impact journals

The job will be advertised until the position has been successfully filled. You should therefore submit your application as soon as possible. We look forward to receiving your application via our

**Online-Recruitment-System!**

**Questions about the vacancy?**

Get in touch with us by using **our contact form**.

Please note that for technical reasons we cannot accept applications via email.

[www.fz-juelich.de](http://www.fz-juelich.de)

This position is within the Quantum Information Processing research group, led by Prof. Dr. Kristel Michielsen. For more information about the research group have a look here: <https://www.fz-juelich.de/en/ias/jsc/about-us/structure/research-groups/qip>

#### **Your Profile:**

- Master's degree and PhD in quantum physics, computer science, electrical engineering, mathematics or a related field
- Experience in quantum computer programming
- Experience in applying numerical methods and algorithms, preferably in the domain of QC, such as QAA and QAOA
- Experience in cloud computing and building cloud computing infrastructure
- Interest and/or experience in developing and conducting lectures and/or trainings for QC
- Proficiency in writing numerical software, preferably in C++ and Python
- Excellent command of written and spoken English, command of German is helpful

#### **Our Offer:**

We work on the very latest issues that impact our society and are offering you the chance to actively help in shaping the change! We support you in your work with:

- Comprehensive training courses and individual opportunities for personal and professional further development
- Extensive company health management
- Ideal conditions for balancing work and private life, as well as a family-friendly corporate policy
- Flexible work (location) arrangements, e.g. remote work
- Flexible working hours in a full-time position (39 hours/week) with the option of slightly reduced working hours
- 30 days of annual leave and provision for days off between public holidays and weekends (e.g. between Christmas and New Year)
- Targeted services for international employees, e.g. through our International Advisory Service

In addition to exciting tasks and a collaborative working atmosphere at Jülich, we have a lot more to offer: <https://go.fzj.de/benefits>

The position is initially for a fixed term of 2 years, with possible long-term prospects. Salary and social benefits will conform to the provisions of the Collective Agreement for the Public Service (TVöD-Bund), pay group 13, depending on the applicant's qualifications and the precise nature of the tasks assigned to them. All information about the Collective Agreement for the Public Service (TVöD-Bund) can be found on the BMI website: <https://go.fzj.de/bmi.tvod> The monthly salaries in euros can be found on page 66 of the PDF download.

We welcome applications from people with diverse backgrounds, e.g. in terms of age, gender, disability, sexual orientation / identity, and social, ethnic and religious origin. A diverse and inclusive working environment with equal opportunities in which everyone can realize their potential is important to us.

Further information on diversity and equal opportunities: <https://go.fzj.de/equality>