Research Scientist Quantum Characterization, Verification, and Validation (QCVV)

Location: *Munich / hybrid* *Department:* *R&D*
Employment: *Full-time* *Role / field:* *Physics*

Who we are

At neQxt, we build full-stack ion-trap quantum computers, striving for excellent performance and scalability. With decades of expertise in ion-trap technology, neQxt was spun out of Mainz University, and it is headquartered in Germany's Frankfurt Metropolitan area. Our team of leading talent from Europe and beyond covers the entire value chain, from the basic hardware to end-user software level. Join our passionate team of ambitious scientists, engineers, technicians and quantum enthusiasts, building top-tier fault-tolerant quantum computers together!

Job description

You will focus on developing optimal QCVV methods for the continuous characterization and improvement of neQxt quantum computers. The job supports experimental implementation and interpretation from component level to circuit level, with particular attention to feasibility in current and near-future atomic systems. QCVV methods in the context of Quantum Error Correction (QEC) must be adapted, developed, and implemented for the relevant architecture. You will collaborate with product owners, the engineering and experiment teams, the theory team, and external partners.

Responsibilities

- Develop and select QCVV methods for continuous characterization and improvement of quantum computers
- Support implementation and interpretation of QCVV methods in experiments
- Characterize and verify components, quantum operations, channels, and circuits
- Adapt QCVV methods in the context of QEC to the architectural constraints of the system
- Report risks, deviations, and improvement opportunities to the CPO and relevant stakeholders

Requirements

- Degree in physics, quantum information, AMO physics, or a closely related field
- Strong theoretical background in quantum characterization, verification, and validation
- Strong background in QCVV methods, especially error modelling and characterization of quantum operations and channels at the physical level
- At least basic knowledge of experimental feasibility and constraints in atomic quantum systems
- At least basic knowledge of current error-modelling and QCVV methods in the context of QEC
- Ability to interpret QCVV results and derive actionable improvements for experiments
- Proficiency in written and spoken English

Nice to have

- Doctorate or equivalent research experience in QCVV, quantum error characterization, AMO systems, or QEC-related methods
- Experience with trapped-ion or atomic quantum-computing platforms
- Experience connecting physical-level QCVV results to system-level or circuit-level metrics

neQxt GmbH
Glanzstoffstr. 1
63906 Erlenbach am Main

Tel.: +49 6022 81 3100
Email: info@neqxt.org
Web: www.neqxt.org

Managing Director: Sebastian Deuser
Local Court Aschaffenburg, HRB 16886
VAT-ID: DE356793780

Sparkasse Aschaffenburg-Miltenberg
IBAN: DE63 7955 0000 0501 7730 89
BIC: BYLADEM1ASA

Who you are

- High motivation and agility, and a sense of responsibility
- Leadership skills: form, build, and grow the team
- Stakeholder management: find compromises in conflicts and persuade effectively
- Strong team player with a collaborative, ownership-oriented mindset
- Continuous willingness to learn and teach
- Ability to explain difficult concepts in a simple way to different stakeholders
- Solution-oriented approach and ability to converge on actionable decisions
- You can manage complex and demanding technical challenges independently

What we offer

We focus on true technological advancement rather than unrealistic roadmaps. With a pragmatic, no-nonsense approach, we move fast and avoid bureaucracy. We value your individuality and offer a flexible environment tailored to your lifestyle.

- Results-oriented environment with flat hierarchies and a passionate team
- Competitive salary with automatic inflation adjustment
- Flexible working hours, hybrid/remote work and full overtime compensation
- Career development in an emerging tech field
- German language courses, if needed
- Company pension scheme
- Choice of a flexible mobility budget or company car
- Default (mandatory) German employment benefits (e.g. health / pension / unemployment insurance, paid sick leave, maternity protection, parental leave, ...)

How to apply

To apply, please submit your CV, a cover letter including your preferred starting date, and any relevant publications, project details or other supporting documents via e-mail to: career@neqxt.org.
Applications will be reviewed on a rolling basis until positions are filled.

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