Leibniz Universität Hannover

The Institute of Quantum Optics of Leibniz University Hannover (LUH), in cooperation with the Physikalisch-Technische Bundesanstalt (PTB) - the national metrology institute of the Federal Republic of Germany - in Braunschweig, invites applications for the position of a

Postdoctoral Researcher (m/f/d) on Characterization of Photonic Integrated Ion Traps for Compact Quantum Sensors (Salary Scale 14 TV-L, 100 %)

starting at the earliest possible date. The position is initially limited to 1 year and can be extended up to 6 years.

Background

We are integrating nano-photonics in rf-ion traps and in light-conditioning photonic circuits to develop an ultra-compact chip-scale optical clock. Within the European QT-Flagship Pilot-Line "CHAMP-ION: A EUROPEAN ADVANCED MANUFACTURING PILOT LINE OF ION-TRAPS" and project "Qu-PIC" we collaborate with multiple industry partners, among INFINEON, ALUVIA and EAGLEYARD/TOPTICA, to develop and characterize CMOS based ion traps and lasers with integrated nanophotonic: https://www.silicon-austria-labs.com/en/press-downloads/details/green-light-for-europes-first-ion-trap-chip-pilot-line and https://qt.eu/projects/enabling-technology/qu-pic

Task description

You will be part of a diverse team, embedded in national and international collaborations, working in our lab at the German national metrology institute.

In detail, the tasks include:

- Project management and communication with industry partners
- Work with laser stabilization and laser optics
- Test of nano-photonics elements
- Laser spectroscopy on optical clock transitions in trapped ions
- Development of datasheets for industry-grade ion traps
- Presenting research findings at national and international conferences

Employment conditions

- PhD in Physics or related topics
- Hands-on experience in at least one of the following fields:
  - Lasers, optics and vacuum setups
  - Characterisation of nano-photonics elements
  - Laser-cooling and spectroscopy of trapped ions or atoms
  - Rf-ion traps
  - Quantum optics and optical clock physics

Leibniz
Universität
Hannover

- Fluent English skills
- Structured analytical thinking
- Goal-oriented working and strong problem-solving abilities
- Strong communication, teamwork and project-management skills
- Ability of carrying out physical work in an optics laboratory

In return for your contributions, we offer:

- Competitive Tarif TV-L compensation
- The opportunity to work in an international and highly motivated team in a state-of-the-art equipped research lab and embedded in a world-class infrastructure

The candidates will be evaluated on the basis of their scientific research excellence and adequacy to the project.

Leibniz University Hannover considers itself a family-friendly university and therefore promotes a balance between work and family responsibilities. Part-time employment can be arranged upon request.

The university aims to promote equality between women and men. For this purpose, the university strives to reduce under-representation in areas where a certain gender is under-represented. Women are under-represented in the salary scale of the advertised position. Therefore, qualified Women are encouraged to apply. Moreover, we welcome applications from qualified Men. Preference will be given to equally-qualified applicants with disabilities.

For further information, please contact Prof. Dr. Tanja Mehlstäubler (Tel.: +49 531 592-4710, Email: tanja.mehlstaeubler@quantummetrology.de).
https://www.quantummetrology.de/quaccs/home/

Please submit your application with supporting documents in electronic form to
Email: tanja.mehlstaeubler@quantummetrology.de

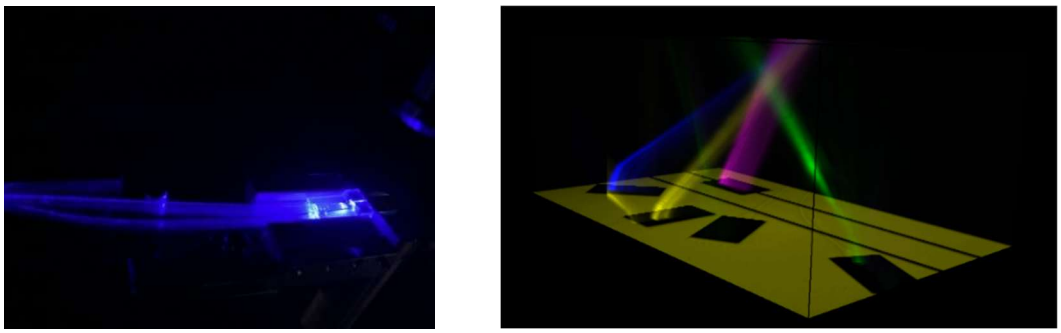

Figure1: a) Fiber array-to-chip coupling with blue light. b) 3D-optical beam tomography in photonically integrated ion trap for a Yb^+ atomic clock.

Information on the collection of personal data according to article 13 GDPR can be found at https://www.uni-hannover.de/en/datenschutzhinweis-bewerbungen/.