

**Research project:**

This position is embedded in the research project OPTIMO-II, a DLR-funded project investigating atomic quantum memories for operation in space.

We are looking for a PhD student to work on the development of space-compatible laser-cooled atomic ensemble platform for a variety of quantum optics experiments from long-lived quantum memories to EIT-based velocimetry in microgravity conditions. The work will be highly interdisciplinary and involve domestic and international collaborations.

With suitable qualification, this position can be upgraded and filled with a Post-Doc position.

**Area of responsibility:**

Doctoral position (75%, TV-L - E 13 | 31.03.2022, code: DR / 094/20)

- Assembly, characterization and operation of a laser system for high resolution atomic spectroscopy.
- Realization of a coherent light-matter interface based on trapped atomic gases.
- Software development and implementation of evolutionary machine learning algorithms towards optimizing memory efficiency.
- Work closely with other postdoctoral fellows, Ph.D. and Master's students

**Scientific and technical competences:**

- Master's degree in physics
- Hands-on experience in atomic physics and/or quantum optics experiments e.g. laser cooling of atoms, optical spectroscopy, photon sources etc.
- Expertise in the development and characterization of laser systems for quantum optics experiments
- Good programming skills are desired
- Good knowledge in analog and digital electronics is desired
- General laboratory skills (e.g. RF electronics, opto-mechanics and optics)
- Experience in computer aided design of electric circuits and mechanics
- Familiarity with concepts in quantum information science would be beneficial
- Good team spirit and ability to work independently in a collaboration is essential

**Employment:**

Humboldt-Universität zu Berlin  
Mathematisch-  
Naturwissenschaftliche Fakultät  
Institut für Physik  
Berlin, Germany

**Application to:**

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Your application must include a curriculum vitae, copies of certificates and documents, a detailed description of your past or current research projects, and a list of publications, if available.

- HU is seeking to increase the proportion of women in research and teaching, and specifically encourages qualified female scholars to apply.
- Researchers from abroad are welcome to apply.
- Severely disabled applicants with equivalent qualifications will be given preferential consideration.
- People with a migration background are specifically encouraged to apply.