



Paderborn University is a high-performance and internationally oriented university with approximately 20,000 students. Within interdisciplinary teams, we undertake forward-looking research, design innovative teaching concepts and actively transfer knowledge into society. As an important research and cooperation partner, the university also shapes regional development strategies. We offer our more than 2,500 employees in research, teaching, technology and administration a lively, family-friendly, equal opportunity environment, a lean management structure and diverse opportunities.

Join us to invent the future!

With the Institute for Photonic Quantum Systems (PhoQS), Paderborn University aims to establish an international research center in the field of photonic quantum technologies. The goal is to develop new technologies for photon-based quantum applications as well as new theoretical and experimental concepts and research approaches. The ultimate focus is on the understanding and control of photonic quantum simulators and quantum computers.

Within this scope, we invite applications for the following fixed-term position (75% of the regular working time), which will start at the earliest opportunity:

PhD student (f/m/d)

(salary is according to TV-L 13)

The position is embedded in the project “Quantum Photonic Integrated Circuits (QPIC-1)” of the *Federal Ministry of Education and Research*. Employment is initially limited to three years and adheres to the legal regulations laid out in the *WissZeitVG*.

Specifically, we are looking to employ a PhD student in the field of quantum photonics technology who will work on the realization of a testbed for photonic quantum computation based on thin-film lithium niobate modulators at the Institute for Photonic Quantum Systems (PhoQS). The following are examples of relevant tasks:

- Development and fabrication of waveguides and modulators in thin-film lithium niobate
- Modelling of waveguide circuits and modulators for quantum light manipulation
- Optimization and characterization of device quality
- Development and optimization of optical setups for quantum light experiments
- Characterization of quantum light devices
- Assistance training Master and Bachelor students

It is expected for the successful candidate to have experience in one or more of the following areas:

- Integrated optical device fabrication and technology
- Thin-film lithium niobate technology
- Modelling of integrated optical devices
- Nonlinear optics, especially frequency conversion
- Integrated optics, especially guided-wave optics

Knowledge in programming with Python and cleanroom experience are beneficial.

Hiring requirement:

Suitable candidates have completed their M.Sc. in physics or a closely related subject.

Since Paderborn University seeks to increase the number of female scientists, applications of women are especially welcome. In case of equal qualification and scientific achievements, they will receive preferential treatment according to the North Rhine-Westphalian Equal Opportunities Policy (LGG), unless there are cogent reasons to give preference to another applicant. Likewise, applications of disabled people with appropriate qualification are explicitly requested. This also applies to people with equal status according to the German social law SGB IX.

Please send your application including a CV and list of publications (preferably in a single pdf file) by **27.05.2022** using the **Ref. No. 5288** via e-mail to christine.silberhorn@upb.de.

Information regarding the processing of your person data can be located at:
<https://www.uni-paderborn.de/en/zv/personaldatenschutz>

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