



Paderborn University is a high-performance and internationally oriented university. 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 employees in research, teaching, technology and administration a lively, family-friendly and 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:

Ph.D. student (f/m/d)

(Salary level 13 TV-L)

Initial work is embedded within an international project on quantum secure networks funded by the European Union within the Horizon Quantum Flagship initiative. Employment is initially limited to three years and adheres to the legal regulations laid out in the WissZeitVG.

In the collaborative project, you will develop integrated optical devices in thin-film lithium niobate (TFLN) especially for quantum secure communications. In close collaboration with the European project partners application specific devices for demonstrators will be developed, The position will be integrated in a large, dynamic, and friendly international group, with expertise from device design and fabrication to quantum photonics and networking. Specifically, we are looking to employ a scientist to support the technology team. The following are examples of relevant tasks.

- Modeling of integrated optical structures
- Mask design of integrated devices
- Lithographic processing (e-beam, optical)
- Clean-room technologies for device fabrication
- Strong cooperation with the application side
- 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 devices
- Lithium niobate technology
- Clean-room technologies
- Deposition- and lithographic processing technologies

Hiring requirement:

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

We offer:

- Flexible working hours and the individual option of mobile working
- Wide range of health, counseling and prevention services
- Attractive fringe benefits such as childcare facilities and sports activities
- Opportunities for internal and external training and development
- Additional benefits in accordance with the collective agreement of the federal states (TV-L), such as annual bonuses and capital-forming benefits as well as the VBL supplementary pension scheme

Applications from women are particularly welcome and, in case of equal qualifications and experiences, will receive preferential treatment according to state law (LGG), unless there are preponderant reasons to give preference to another applicant. Part-time employment is generally possible. Applications from disabled people with appropriate suitability are explicitly welcome. This also applies to people with equal opportunities in accordance with the German social law SGB IX.

Please send your application including a CV and list of publications (preferably in a single pdf file) using the Ref. **No. 6848 by 14th March 2025** via e-mail to christine.silberhorn@upb.de with copy to harald.herrmann@upb.de.

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

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