HELMUT SCHMIDT UNIVERSITÄT
Universität der Bundeswehr Hamburg

At Helmut Schmidt University / University of the Federal Armed Forces Hamburg (HSU/UniBw H), Faculty of Electrical Engineering, Professorship for Experimental Physics and Materials Science (Univ.-Prof. Dr. rer. nat. Kip), a position is **available from the next possible date** for a

Research Assistant (m/f/d)

(salary group 13 TVöD [Collective agreement for the public service]; 26 hours per week)

for a limited period of 3 years.

The main areas of research of the professorship concentrate on the areas of photonics and integrated optics for various applications such as waveguide lasers, optical amplifiers or fibre-optic sensors.

The aim of this research project is the development of a novel material platform for rare earth (RE) doped active devices made of single crystal thin film lithium niobate ($LiNbO_3$), which is also called lithium-niobate-on-insulator (LNOI). For this purpose, different LNOI substrates with RE doping of different ion species (e.g. Er, Nd, Yb, Tm) and concentrations will first be fabricated and their optical properties fully characterized. Dopants such as Zn or Zr, which can improve the optical damage thresholds of LNOI, will also be investigated. Subsequently, these samples will be used to fabricate waveguides using methods such as precision dicing, chemical mechanical polishing, and dry etching to obtain both straight ridges and curved structures such as ring resonators. These investigations should then pave the way to achieving the final goal of this project, i.e., a first demonstration of ultra-compact light amplifiers and ridge waveguide laser sources in this new RE:LNOI platform.

Responsibilities:

- Work on the research project described above
- Presentation and publication of research results
- Assistance in teaching to the extent of basically 2,0 trimester hours per week
- Possibility of further academic qualification (e.g. PhD or habilitation)
- Carrying out general administrative work as well as academic activities in academic self-administration

Qualification requirements:

- A completed university degree [Diplom (univ.) or Master] with good grades in physics or photonics, or in a closely related scientific or technical discipline

- German language skills and / or foreign language skills in English with a proficiency level that corresponds at least to the language level B2 of the Common European Framework of Reference for Languages

Furthermore desired:

- Good knowledge in the field of photonics and optical materials
- Experience in experimental work, e.g. in the field of optical technologies, photonics or laser technology
- Initiative and willingness to work in a team
- Strong interest in scientific work and the ability to teach

Features of this position:

- Professional clean room area
- Excellently equipped laser laboratories
- Capital-forming benefits
- Annual bonus payment
- Company pension scheme
- Flexible working hours
- DeutschlandJobTicket with employer subsidy if the necessary requirements are met
- Possibility of claiming a childcare place in a daycare centre close to the campus if the necessary preconditions are met
- You will benefit from targeted personnel development and an extensive range of further training and education opportunities.
- Budget-friendly meals in the campus canteen with three meals a day
- You have the opportunity to participate in company health measures (for more information, see: www.hsu-hh.de/bgm/).
- Free parking on the campus grounds
- Possibility of using the Bundeswehr's own car-sharing service (for more information, go to: www.bwcarsharing.de).

For questions related to scientific or technical aspects, please contact Univ.-Prof. Dr. rer. nat. Kip, Tel.: 040/6541-2457 or by e-mail: kip@hsu-hh.de.

The employment is based on the TVöD in conjunction with the Wissenschaftszeitvertragsgesetz [German Act on Fixed-Term Scientific Contracts]. In principle, the activities correspond to pay group 13 (E13). Classification up to pay group 13 of the TVöD shall be made in accordance with § 12 of the TVöD with regard to the activities to be performed on a more than temporary basis and the fulfilment of the personal or collective agreement requirements (job characteristics).

Part-time employment is possible.

The Federal Armed Forces promotes professional equality between women and men and therefore particularly welcomes applications from women.
In accordance with the Sozialgesetzbuch IX [Social Code Book IX] and the Disability Equality Act, we expressly welcome applications from severely disabled persons; the fulfilment of the requirements for the advertisement will be considered on an individual basis.

More information about the university and the professorship can be found at:

www.hsu-hh.de and www.hsu-hh.de/laser/.

Please send your application with the usual documents exclusively in electronic form (pdf file), quoting the reference number **ET-3023**, **by 04.12.2023** to:

personalabteilung@hsu-hh.de.

Note:
Information on data protection in the application process can be found on the website www.hsu-hh.de under the heading "Universität - Karriere - Datenschutzinformationen“.

Applications without reference number will not be considered and will be deleted immediately for data protection reasons.

FAMILIE IN DER HOCHSCHULE