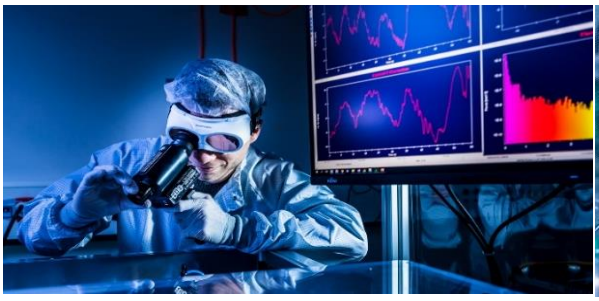
The Chair of Laser Technology & Spectroscopy at the Faculty of Electrical Engineering of the Helmut Schmidt University / German Armed Forces University Hamburg, Univ.-Prof. Dr. Pronin, offers to the earliest possible date

student assistant (m/f/d) with the possibility to write a master thesis (13,83€/hour; 19h/week)

to be filled for a limited period of 12 months.

The preparation of a master's thesis in the specialised context of ultrafast photonics (possible topic: 'Development of an XUV spectrometer for the diagnosis of high-intensity and high harmonic radiation') is intended in parallel to employment.



Our team is developing novel laser sources for the extreme ultraviolet (XUV) spectral range. For this purpose, we have developed the world's most powerful femtosecond thin disc oscillator. The main topic of this master project is the design and construction of a spectrometer for the detection of XUV light generated by our newly developed thin disc oscillator [1]. This infrared laser source is converted into the UV spectral range by generating high harmonics (HHG). The XUV spectral measurements are challenging and a special grating spectrometer needs to be developed to characterise this light.

Our phase-stabilised laser with the highest peak pulse power will offer unique opportunities in high-resolution XUV frequency comb spectroscopy and the development of thorium atomic clocks, potentially the 'most precise clocks in the world' [2].

This project offers the opportunity to collaborate with international scientists in a state-of-the-art laser laboratory and to acquire crucial knowledge in photonics. Join our young and dynamic group and work at the forefront of ultrafast photonics!

For more information on the research focus of the professorship, please visit: www.hsu-hh.de/lts.

Responsibilities:

- Setup and realisation of new laser experiments
- Analysing data
- Design tasks on the computer

Qualification requirements:

- Bachelor's degree in natural sciences or engineering specialising in optics/photonics
- Good written and spoken German and English skills
- Passion for ‘problem solving’ and strong motivation
- Enrolment at a German university

We offer:

- State-of-the-art laboratories with excellent equipment in the field of ultrafast photonics
- Freedom to express yourself and contribute your ideas to this project
- A multifaceted, diverse and challenging position in an application-oriented research environment
- Young international group with a flat hierarchy
- Language courses
- Workplace at a green campus university in the east of Hamburg
- DeutschlandJobTicket with employer subsidy if the necessary requirements are met
- Inexpensive catering in the campus canteen with three meals a day
- You have the opportunity to participate in company health programmes (for more information, please visit: www.hsu-hh.de/bgm/).
- Free parking on the campus site
- Possibility to use the Bundeswehr's own car sharing scheme (for more information, please visit: www.bwcarsharing.de)

Please do not hesitate to contact us for further information!

- Johann Meyer, M.Sc. (johann.meyer @hsu-hh.de)
- Prof Dr Oleg Pronin [3] (oleg.pronin@hsu-hh.de)

Further information about the university and the professorship can be found at www.hsu-hh.de/lts.

The employment relationship is governed by the provisions of the Wissenschaftszeitvertragsgesetz (WissZeitVG).

Part-time employment is possible.

Applications from women are expressly encouraged. Women will be given preferential consideration in areas in which they are underrepresented, if they have the same aptitude, qualifications and professional performance, unless reasons relating to the person of a competitor outweigh this.

We expressly welcome applications from severely disabled persons and persons with equivalent disabilities. Severely disabled persons and their equals will be given preferential consideration in cases of equal suitability, ability and professional performance. Only a minimum level of physical aptitude is required of them. With regard to the fulfillment of further tender requirements, individual consideration will be given.

Please send your application with the usual documents exclusively in electronic form (pdf file), quoting the reference number **ET-1225, by 09.06.2025** to

personalabteilung@hsu-hh.de

Note: Information on data protection as part of the application process can be found on the website www.hsu-hh.de under the heading ‘University - Career - Data Protection Information’.

Your application cannot be considered without the reference number and will be deleted immediately for data protection reasons.

FAMILIE IN DER HOCHSCHULE

Zertifikat seit 2023
audit familiengerechte hochschule

[1] Semyon Goncharov, Kilian Fritsch, and Oleg Pronin, "110 MW thin-disk oscillator," Opt. Express 31, 25970 (2023)

[2] Nuclear Clock with Thorium-229m https://en.wikipedia.org/wiki/Nuclear_clock

[3] Oleg Pronin’s Scholar profile: scholar.google.com/citations?user=cpJZ1BwAAAAJ