

Scientific Member of Staff / (m/w/d) - Device Physics of High-Power Diode Lasers -

The High Power Diode Lasers Lab at the FBH is seeking a scientific co-worker, to study the device physics of high power diode lasers, to enable the highest possible laser and system performance.

(Reference number 17/19)

GaAs-based diode lasers are the most efficient and highest power light sources today and are key components for the world's largest (and rapidly growing) laser market, in material processing. The FBH performs research into the next generation of diode lasers and modules for this market, and these must deliver continually increasing output power and conversion efficiency.

However, at high optical output powers, a complex series of coupled non-linear effects arises, and the physical limits to output power, efficiency and reliability are not fully understood, and vary strongly with operating wavelength. These effects must be understood to an ever deeper level and addressed in detail in order to deliver the needed performance improvements. Further, diode lasers with the newest designs and technology arising from these studies must be fabricated to the highest quality and brought into application together with the FBH's cooperation partners.

The successful candidate will take a leading role as a device physicist in the HPDL group, focusing on the design, development and analysis of high power diode lasers, for direct application and for pumping established and novel solid state media. The work includes detailed diagnostic studies of diode lasers and their physical and technological limits. In addition to experimental studies, the work will also include the use of the most modern simulation techniques. The successful candidate will also supervise bachelor, master and doctoral students, take part in the preparation and supervision of research projects and will present the latest results at leading international research conferences and in scientific articles.

All work will be performed in close cooperation with the relevant specialist teams at the FBH. The work is highly international and will also involve close cooperation with various partners in research and industry, including assignments overseas.

Candidates must have completed their doctoral studies in physics or electrical engineering. Experience with diode lasers, semiconductor technology or optical resonators is preferred. Diode laser fabrication involves long process chains and is performed within an international team. Therefore, good team work skills and an excellent command of English language are essential for this position.

The position can be **filled immediately** and is initially limited to two years.

Payment is according to TVöD Bund (collective salary scheme for German public service). FBH is an equal-opportunity employer. Female candidates are encouraged to apply. Among equally qualified applicants, preference will be given to handicapped candidates.

Have we piqued your interest? Then we look forward to your online application. Please click on "[Apply online](#)" and submit your complete application documents by **07.08.2019**.

If you have any questions about the application, please contact Ms. Manuela Münzfeld, Phone: 030 6392-2641

Email: manuela.muenzfeld@fbh-berlin.de

Profile

The Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik (FBH) within the Forschungsverbund Berlin e.V., is a leading international research institute that studies diode lasers, LEDs and microwave devices.

On the basis of III/V semiconductors, it researches and implements components and systems for applications in communications, traffic and production technology, medicine and biotechnology. It covers the entire value chain from design to ready-for-delivery systems.

For more details, visit: www.fbh-berlin.com