Job posting

**Type of position**  
☑️ scientific  
☐ administrative

**Target group**  
☐ graduates  
☒ post docs  
☐ other

**Title**  
POST DOC (F/M/X)  
FOR THE DEVELOPMENT OF OPTICAL MEASURING SYSTEMS

**Institution**  
RESEARCH AND DEVELOPMENT  
FROM IDEA TO PROTOTYPE

Our institute ranks among the largest and most modern institutions in the field of low-temperature plasmas worldwide. In an international working environment, we conduct socially relevant research within our core areas Materials & Energy and Environment & Health. Currently the INP employs about 200 scientists and staff at three locations (Greifswald, Rostock and Karlsburg).

**Position**  
The department of Plasma Diagnostics invites applications for a position in Greifswald, Germany, starting at the earliest possible date as

POST DOC (F/M/X)  
FOR THE DEVELOPMENT OF OPTICAL MEASURING SYSTEMS

Fixed term contract for 2 years / Full-time appointment (40 hours/week) / Target salary: TV-L/E13

**Responsibilities**  
The department of Plasma Diagnostics is engaged in the development and application of laser-based diagnostics for the characterization of plasma-chemical processes and plasma-surface interactions. Within the framework of a public funded project with focus on the development of AOM-lasers for application in laser spectroscopy, a new approach for enhanced tuning of diode lasers based on the frequency controlling of intra-cavity acousto-optic modulators (AOMs).

YOUR KEY RESPONSIBILITIES:
- Establishment of an experimental setup for the characterization of the AOM-lasers for spectroscopy
- Analysis and characterization of the tuning behaviour of such lasers with the aim of optimization and laser control via acousto-optical modulators
- Development of diode AOM-laser-based measurement systems
- Development of real-time evaluation algorithms of the
measured spectra
- Use of these lasers for the quantitative detection of molecular species in the gas phase or in a plasma

Furthermore, you will:
- Work together with colleagues within the department on other laser-based diagnostics using quantum cascade lasers, cavity enhanced spectroscopy or frequency combs
- Prepare scientific publications
- Assist in the acquisition of third-party funds

Requirements

Essential:

- Successfully completed Master’s degree in physics, physical chemistry or photonics
- Successful completion of PhD degree
- Very good knowledge in the field of laser spectroscopy for the sensitive detection of molecules in the gas phase
- Experience in the development, setup and operation of diode lasers and/or quantum cascade lasers
- Detailed knowledge of LabView, Mathlab, FPGA programming and VHDL programming
- Highly motivated and with the drive to advance scientific research in the field of laser spectroscopy for gas phase and plasma diagnostics
- Experience in writing scientific reports and publications
- High degree of commitment, incentive, self-reliant working, ability to handle stress, team spirit, flexibility, reliability and problem-solving competence
- Confident manner and communicative personality
- Communicative skills in English (spoken and written) above average
- Knowledge of German language is beneficial.
- Very good computer skills are mandatory.

Desirable:

- Experience with the control and use of acousto-optical components
- Experience with handling of real-time systems, signal processing, and evaluation algorithms
- Experience in circuit design and electronics

Application procedure (deadline etc.)

OUR OFFER FOR YOU:

- Compensation according to collective salary agreement of Länder (TV-L) including employer contributions to medical and dental insurance, maternity leave and retirement benefits
- Creative working environment
- Possibility of designing and implementing own project ideas
- State-of-the-art technical facilities
- Opportunities for professional development (e.g. project management, scientific writing, writing project proposals)
- Networking opportunities at national and international conferences and in cooperation with national and international industry partners
- In-house German course free of charge
- Flexible working hours and home-office offers
- 30 vacation days per year (plus: December 24 and 31)
- Sports courses in our institute rooms
- Staff kitchen

HOW TO APPLY
Please apply with the common documents (motivation letter, CV, copies of academic degrees and letters of reference) giving the keyword „0415 Post Doc Optical Measuring Systems“ - preferably via our online application form - until June 15 2021.

Your performance and personality matters regardless of your age, origin, gender, sexual identity, disability or ideology. We look forward to receiving your applications!

The INP wants equal participation of men and women, especially in science. There are many good reasons why it is worthwhile to promote the potential of women specifically. Qualified women candidates are explicitly called to apply. Handicapped applicants will be preferred in case of equal qualification.

Contact
For further information and inquiries, please contact Dr. Jean-Pierre van Helden (phone: +49 3834 5543811; e-mail: jean-pierre.vanhelden@inp-greifswald.de).

Please send your applications to*:
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Mrs Gabriele Lembke
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* Unfortunately, we cannot refund any expenses associated with the application or job interview due to budgetary regulations.