



PhD position (m/f/d) for the simulation of graphene based optoelectronic devices

Job-ID: 0124/21 | Department: Materials Research | Salary: according TV-L | Working time: 40h/week (part-time work option) | Limitation: initially 2 years with option of extension for three more years | Application Deadline: 31.12.2021 | Entry Date: as soon as possible

IHP is an institute of the Leibniz Association and conducts research and development of silicon-based systems and ultra high-frequency circuits and technologies including new materials. It develops innovative solutions for application areas such as wireless and broadband communication, security, medical technology, industry 4.0, automotive industry, and aerospace. IHP employs approximately 350 people. It operates a pilot line for technological developments and the preparation of high-speed circuits with 0.13/0.25 μm -SiGe-BiCMOS technologies, located in a 1500 m² cleanroom that meets the highest industrial nanotechnology requirements.

The position:

As a member of the 2D Materials group within the department Materials Research, you will contribute to the latest research of graphene at IHP. Your tasks will include simulations of 3D photonic components of graphene EA modulator, component and device level simulations (Charge, E-Field, Loss, Effective index and Transmission, RF, etc.). You will analyze experimental data and present the outcomes to international communities.

An international team of 6 scientists including very experienced scientists and PhD students, as well as interns and student assistants is looking forward to you. Flat hierarchies and mutual support are important to us. We see diversity of perspectives as a great advantage for our team. We strive for a balanced gender mix in our team.

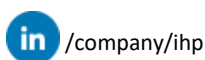
Your PhD project:

Within the doctorate in the area of simulations of graphene based optoelectronic devices, it is intended to develop the EA modulator. The doctorate is supported by an experienced supervisor and accompanied within the framework of a supervision agreement. We aim together for a completion within 3-5 years. After one and a half years, the topic will be finally defined and the contract duration will be adjusted accordingly by mutual agreement to the foreseeable doctoral period.

Your qualifications:

You are holding a Master's degree in degree in physics, engineering or a similar area. You have basic knowledge of optoelectronic devices and hands-on experience in simulations platforms (Lumerical, CST, Comsol, Fimmwave, etc.). Ideally, but not mandatory, you have a basic understanding in graphene based electro-optic modulators.

You are also a strong team player. We are looking for a team member, who is able to structure his or her own work and to bring a well-organized and systematic way of working into the cooperation with creative minds. You are an ideal match for this position, when you have experimental, analytical and problem-solving skills, very strong communicative skills and the ability to quickly learn how to operate the latest technical equipment including various software. It is necessary that you confidently handle the English language. Knowledge of the German language is welcome. The deepening of German language skills is expected and highly encouraged, for example in in-house language courses and intensive courses.



Our Offer:

Do research in a challenging, multinational environment giving you excellent career opportunities. You will have the chance to establish international reputation at the edge of top-notch technologies. An orientation guide will help you to quickly integrate into the institute and to familiarize yourself with the field.

It is important to us to support the individual career developments (e.g. conferences, advanced trainings) as well as the personal needs of our employees by offering flexible working hours and the possibility to work off-site. The compatibility of work and family is highly valued. More information about our scientific excellence and the working environment at IHP can be found on our website.

IHP is TOTAL E-QUALITY-certified for equal opportunities for women and men at work and actively pursues the equality of all gender and all groups of people. We promote the professional development of women and strongly encourage them to apply. Disabled applicants, qualified according to the above criteria, will be given preference over other candidates with equivalent relevant qualifications.

Your application:

Have we sparked your interest? Then we look forward to receiving your application until **December 31st, 2021** via our [online application form](#).

For further information regarding the position please contact Dr. Mindaugas Lukosius:
career@ihp-microelectronics.com.