



PhD or PostDoc Position for Device and Module development (m/f/d)

Job-ID: 7067/24 | Department: Technology | Salary: as per tariff (TV-L) | Working Time: 40h/week (part-time option possible) |
Limitation: initially for 3 years with option of extension | Starting 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 380 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 research group "Advanced Diagnostics and Sensory" within the department Technologie you will contribute to a wide range of research activities. Ranging from the technology oriented device and module development up to characterisation and implementation of the developed modules. You will act as the first point of contact for integrating the modules you develop.

Flat hierarchies and mutual support are important to us. We see diversity of perspectives as a great advantage for our team.

Your tasks:

- Development of devices and functional modules for IHP BiCMOS technology with the aid of process simulation and production of test structures
 - Further development of IHPs unique radiation-hard devices based on junction-isolation e.g. RF-LDMOS
 - Technological implementation of concepts in the area of hardware security, such as protection against optical side-channel attacks
- Development and optimization of process flows for device and module fabrication
- Design of simple evaluation circuits, preferably using open-source tools e.g. klayout
- Control and monitoring of device and module characterization
- Support in transferring developed devices into industrial and academic applications through integration into the Process Design Kit (PDK)
- Preparation of technical documentation and presentation of research results
- Participation in the acquisition and execution of research projects



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Your qualifications:

- Completed university degree (Master/Diploma) in Electrical Engineering, Physics, Materials Science, or a related field, ideally with the option for a PhD or already pursuing a PhD, or completed PhD (Post-Doc)
- In-depth knowledge of semiconductor technology and device physics
- Technological understanding of the impact of process parameter variations on device performance
- Understanding in the field of interaction of radiation and components and/or hardware security
- Experience with simulation tools (e.g., TCAD, Comsol) is desirable
- Experience in designing evaluation circuits, preferably with open-source tools desirable
- Ability to work independently, in a structured and solution-oriented manner
- Team player with strong communication skills and high self-motivation
- Basic German and excellent English language skills, both written and spoken

Our Offer:

Conduct 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.

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 via our [online application form](#).

For further information regarding the position please contact Mr. Herfurth: career@ihp-microelectronics.com.



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