



PhD position (m/f/d) for real-time wireless communication in adverse environments

Job-ID: 4021/22 | Department: Wireless Systems | Salary: as per tariff TV-L | Working time: 40h/week (part-time work option) | Limitation: initially 2 years with option of extension for three more years | Entry Date: 01.05.2022

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 research group Elastic Computing within the department Wireless Systems you will contribute to research into the latest development in real-time wireless communication in adverse environment, for instance for unmanned aerial vehicles. Your tasks will include the theoretical and experimental analysis of wireless communication in various use cases, incl. drone scenarios, and then the design of appropriate means to deal with various communication problems. Further, you will also be working on some aspects related to UAV localization to support real-time wireless communication. An international team of 4 scientists including very experienced scientists as well as PhD students 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 with the working title “Real-time wireless communication in adverse environment”, it is intended to develop a concept for reliable real-time wireless communication for autonomous missions of drone swarms, together with Brandenburg University of Technology Cottbus–Senftenberg. 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 hold Master's degree in Computer Science or Telecommunications or a comparable study area. You are already experienced in wireless communication fundamentals (medium access control and routing protocols) and software implementation (Python, C).

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 consolidating 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 **March 15, 2022** via our [online application form](#).

For further information regarding the position please contact Dr. Marcin Brzozowski:
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