IHP GmbH - Leibniz-Institut für innovative Mikroelektronik

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 400 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.

Developer for Open Source Assembling Design Kit for IHP Hetereo- and ChipletIntegration (m/w/d)

Job-ID: 70913/26 |Dept.: Technology |Salary: according TV-L |Working time: 40h/week |Limitation: initially 2 years with option of extension |Entry Date: as soon as possible

City: Frankfurt (Oder); Starting date (earliest): At the earliest possible; Remuneration: TV-L

Tasks

The position:
IHP is the first European semiconductor manufacturer to introduce an open PDK in early 2023. Compared to the other two open PDKs (Google/SkyWater 130nm CMOS and GlobalFoundries 180nm CMOS), the IHP process is a BiCMOS technology that incorporates one of the fastest SiGe HBTs (heterojunction bipolar transistors). As a result, this open-source PDK is capable of supporting digital and mixed-signal designs, as well as high-frequency designs for future applications up to 100GHz.
As a member of the Research & Prototyping Service group, you will be directly involved in the development of open source EDA tool support for our design projects. In the context of new heterogeneous and chiplet integration efforts, we are developing an ADK alongside open-source EDA tool interfaces. Your primary focus will be the integration of electromagnetic, thermal, and mechanical simulation tools—all open-source—into the ADK design flow, enabling advanced multi-technology and multi-die design environments.
In addition to working with open source tools, proprietary tools will also be considered throughout the design flow.

Requirements

Your profile:
You hold a Master's degree in physics, electrical engineering, or computer science and bring knowledge in semiconductor technology and devices, as well as experience in IC design and programming. Specialized expertise in packaging techniques, device simulation, and modeling is highly desirable. You are proficient with Linux, GitHub, and scripting languages such as Python. Experiences in Perl or Tcl will be considered as additional qualification.

Experiences with at least one IC layout tool (e.g., KLayout, Magic, Cadence, Synopsys, or Siemens EDA) and at least one PCB layout tool (e.g., KiCad, Altium, or similar) will be highly valued. You are expected in developing open-source tools to contributions to open source projects.
You are organized, capable of managing multiple projects in parallel, and maintain a clear overview in dynamic settings. With strong communication skills, you serve as a reliable and engaging contact for partners and collaborators.
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.

What we offer

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.

Further advantages:
30 days holiday | special annual payment | Company pension scheme (VBL) | Flexible working hours, also part-time (no core working hours) | Possibility to work up to 40 % independent of location according to company agreement | A wide range of further training opportunities in-house or within the framework of business trips | Discounted company ticket with monthly allowance of € 15,75 for various fare zones | Structured induction and actively supported integration into the institute (welcome workshop, intercultural workshop, joint leisure activities)

Application

Contact person: Rene Scholz

By internet: https://www.ihp-microelectronics.com/de/karriere/stellenangebote/online-bewerbungsformular?job=70913/26#c977