IHP GmbH - Leibniz-Institut für innovative Mikroelektronik

Das IHP ist ein Institut der Leibniz-Gemeinschaft und betreibt Forschung und Entwicklung zu siliziumbasierten Systemen, Höchstfrequenz-Schaltungen und -Technologien einschließlich neuer Materialien. Es erarbeitet innovative Lösungen für Anwendungsbereiche wie die drahtlose und Breitbandkommunikation, Sicherheit, Medizintechnik, Industrie 4.0, Mobilität und Raumfahrt. Das IHP beschäftigt ca. 330 Mitarbeiterinnen und Mitarbeiter. Es verfügt über eine Pilotlinie für technologische Entwicklungen und die Präparation von Hochgeschwindigkeits-Schaltkreisen mit 0,13/0,25 µm-BiCMOS-Technologien, die sich in einem 1000 m² großen Reinraum der Klasse 1 befindet.

Research Associate (m/f/d): NanoWired Integration and Packaging Coordination

Job-ID: 70410/26 | Department: Technology | Salary: as per tarif (TV-L) | Working Time: 40h/week (part-time work option) | Limitation: initially two years with option of extension | Starting Date: as soon as possible

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

Tasks

Why this role matters
This position sits at the interface of NanoWired-based low-temperature bonding, advanced packaging, sensor integration, characterization, and open design enablement.
You will help translate technically demanding research results into clear requirements, demonstrator concepts, structured engineering input, and reusable ADK-relevant content.
In doing so, you will work closely with internal expert teams in ADK, electrical/RF characterization, sensor integration, packaging, and cleanroom processing, as well as with international partners in Taiwan.
The role combines technical coordination and requirements-transfer tasks from the projects BioBond-AL and ODE4EC-DIG, with a focus on NanoWired integration, packaging and integration constraints, demonstrator support, and reusable engineering input for design enablement.
A mandatory part of this role is project-related work in Taiwan with a total duration of 6 months.

Your mission
You will strengthen the technical coordination between project work, demonstrator implementation, internal expert teams, and external partners. The role is intended for someone who can understand technically demanding topics, structure them clearly, and turn them into robust, usable engineering input.
This is neither a pure hands-on ADK development role nor an operational measurement position. Instead, the role focuses on technical interface work, requirements consolidation, demonstrator-oriented design support, and the transfer of project results into reusable technical artefacts.

Your responsibilities

- Derive, structure, and maintain technical requirements, constraints, and decision material for NanoWired integration, advanced packaging, sensor integration, and design-enablement-related topics
- Consolidate technical input from BioBond-AL and ODE4EC-DIG and prepare it as usable input for the internal ADK team
- Coordinate technical questions, requirements, and feedback loops between the project teams and the internal ADK and electrical/RF characterization teams
- Support the preparation of simple demonstrator-oriented layouts, test structures, and interposer-related design elements required for the validation of packaging and characterization concepts
- Coordinate the implementation of such structures in close collaboration with the DSE team and the
  responsible cleanroom and process experts
- Work with internal experts in sensor systems, packaging, integration, and characterization to derive
  consistent and practically usable technical requirements
- Consolidate results from joining, characterization, demonstrator evaluation, and integration studies into structured specifications and technical documentation
- Assess and document trade-offs, interface constraints, risks, acceptance criteria, and implementation
  boundaries in a structured and traceable way
- Support the transfer of project results into ADK-relevant artefacts, technical guidelines, datasets, and other reusable engineering outputs
- Contribute to project-related reporting, workshops, dissemination activities, and technical coordination with national and international partners
- Support the technical coordination of cooperation activities with project partners in Taiwan

Requirements

Required

- Master’s degree, Diplom, or equivalent university degree in electrical engineering, microsystems
  engineering, physics, materials science, or a related technical/scientific field
- Strong organisational and communication skills and enthusiasm for coordinating interdisciplinary technical work
- Strong interest in microelectronics integration, advanced packaging, heterogeneous integration, sensororiented system integration, and open design enablement
- Ability to understand complex technical topics quickly and translate them into clear requirements,
  specifications, and structured decision material
- Sound technical understanding of bonding- and integration-relevant interface topics in microelectronics, including the ability to follow discussions on surface preparation, oxide-related effects, and metallization adaptations for NanoWired-based integration, and to translate such input into practical requirements and technical documentation

- Very good command of English, both written and spoken
- Willingness to undertake mandatory project-related stays in Taiwan with a total duration of 6 months

Advantageous

- Basic understanding of reliability and qualification approaches such as thermal cycling, humidity, or
  electromigration
- Basic understanding of electrical and RF characterization and typical measurement and data flows
- Initial experience with simple layout, test-structure, demonstrator, or interposer-related design tasks
- Interest in NanoWired-based low-temperature bonding and its use in sensor-related or heterogeneous integration scenarios
- Experience in requirements engineering, structured technical documentation, or coordination of research and development projects
- Experience working in interdisciplinary or international teams

You are a strong team player with a structured and reliable way of working. You enjoy bringing order to complex technical topics, interacting with different expert groups, and helping translate research results into concrete technical outputs.

What we offer

What you can expect from us
At IHP, you will work in a challenging and international research environment with strong technical infrastructure and close links between research and implementation.
This position offers the opportunity to contribute to highly relevant topics at the interface of:

- NanoWired integration
- advanced packaging
- sensor demonstrators
- characterization and design enablement
- nternational project collaboration
  You will work with experienced expert teams across multiple technical domains and gain insight into both projectlevel coordination and practical demonstrator implementation. A structured orientation process will support your integration into the institute and your new research environment.
  We are committed to supporting your individual career development through conference participation, further training, and mentoring opportunities. At the same time, we value the personal needs of our employees by offering flexible working hours, remote work options, and a family-friendly work culture.

Equal opportunities and inclusion
IHP is TOTAL E-QUALITY-certified for promoting equal opportunities for women and men in the workplace and is strongly committed to diversity and inclusion. We explicitly encourage women to apply and welcome applications from all individuals regardless of gender, nationality, ethnic or social origin, disability, age, or sexual orientation.
Disabled applicants with equal qualifications will be given preference.
If you are relocating to Frankfurt (Oder), our Relocation Service will be happy to assist you with accommodation and settling in.

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 | Parent-child room as a possibility to work with a child in case of childcare bottlenecks | A wide range of further training opportunities in-house or within the framework of business trips | Discounted company ticket with monthly allowance of € 15 for various fare zones | Good transport connections | Free parking at the institute | Canteen with
breakfast and lunch | On-site health services | Company family and care guides | Free, confidential counselling by an external service provider in a wide variety of challenging private or professional situations | Structured induction and actively supported integration into the institute

Application

Contact person: Norbert Herfurth

By internet: https://www.ihp-microelectronics.com/career/vacancies/online-application-form?job=70410/26#c977

More information at https://stellenticket.de/203592/TUBS/
Offer visible until 22/05/26