// BrainLinks
BrainTools

BrainLinks-BrainTools
Albert-Ludwigs-Universität Freiburg
Georges-Köhler-Allee 201
79110 Freiburg im Breisgau

Research Assistant for the design, microfabrication and testing of substrates for biohybrid devices

The Soft Sensorics & Biohybrid Systems group within the research center BrainLinks-BrainTools of the University of Freiburg offers a Research Assistant for the design, microfabrication and testing of substrates for biohybrid devices. The position can be started at January 1st 2026 or at the earliest convenience.

Who We Are

The research center BrainLinks-BrainTools at the University of Freiburg unites life sciences, engineering, and clinical applications in Freiburg, thus anchoring neurotechnology as a research axis between three faculties of the University and various cooperation partners. These emerging opportunities for strong joint research and education between neuroscience, natural sciences and engineering deliver novel interdisciplinary results in an area highly relevant for society as a whole. The scientific goal of BrainLinks-BrainTools is to reach a new level in the interaction between technical systems and the brain, allowing them to directly communicate with each other. This requires the development of flexible yet stable, and adaptive yet robust applications of brain-machine interface technology.

The Soft Sensorics & Biohybrid Systems Group within the research center BrainLinks-BrainTools is developing neural implants as a bioelectronic interface between brain and machine ('brain-machine interface'). A current research focus is on neural implants with biohybrid electrodes. Such biohybrid neural implants use cultured cells to integrate themselves into the brain tissue and thus create a 'living' interface between the brain's local neurons and the read-out electronics. The biohybrid approach targets enhanced biocompatibility of neural implants, thus improving their long-term stability as well as recordings with increased spatial resolution, which is crucial for complex applications and new insights into brain functioning.

Your Tasks

- Micromachining of bioelectronic interfaces based on silicon and polyimide for biohybrid devices and brain organoids
- Electrical characterization of micro-electrode arrays (EIS, CV, CSC, …) as well as aging tests
- Mechanical characterization of substrates (high cycle fatigue testing, bend testing, …)
- Assembly and testing of biohybrid devices with living cells and organoids
- Presentation of research results at international conferences and through publications in scientific journals.

Requirements

- A master's or equivalent degree in Microsystems Engineering, Electrical Engineering, Physics, or a related field
- Vast experience in microfabrication (photolithography, Lift-off, PVD/CVD, wet etching, …) as well as characterization of microstructures (SEM, AFM, …), with Silicon-based substrates and flexible polymer substrates such as Polyimide
- Extensive experience on working in a clean room environment
- Profound knowledge on electrophysiology, the electrical characterization of microelectrodes and operation of neural recording equipment is an advantage

- A strong interest in interdisciplinary research as well as a creative, proactive, and team-oriented mindset
- High proficiency in English, both written and spoken

What We Offer

We offer you the opportunity to engage in highly interdisciplinary research in the exciting field of life science technologies. At our IMBIT research building, you will work in a modern office and laboratory environment that houses a wide range of different disciplines. Access to state-of-the-art technology and testing equipment is provided. A graduate programme offers you continuing education opportunities, networking with other doctoral students, and more. Thanks to a project funding through the Carl Zeiss Foundation there are additional benefits such as workshop offers and networking events across research institutions in Germany. The position is limited to three years, with the possibility of extension based on performance and project needs. The position is suitable for completing a doctoral degree, which is highly welcomed.

Please note that your application must include the following documents in order to be processed:

1. Cover letter
2. Letter of motivation
3. Curriculum vitae (CV)
4. Complete transcripts & grade reports (school education, bachelor's degree/preliminary diploma, master's degree/diploma)
5. Additional certificates (e.g., certificates of good conduct or proof of internships completed)
6. Two references with whom you have worked and who can provide a reliable assessment of your work ethic.

Please send your application to the following address in electronic form:

University of Freiburg
IMBIT // BrainLinks-BrainTools
Dr.-Ing. Simon Binder
Email: simon.binder@brainlinks-braintools.uni-freiburg.de
Georges-Koehler-Allee 201
79110 Freiburg
Germany

For further information, please contact Dr.-Ing. Simon Binder on the phone number +49 761 203-73780 or via E-Mail simon.binder@brainlinks-braintools.uni-freiburg.de