Leibniz-Institut für Resilienzforschung

The Leibniz Institute for Resilience Research (LIR) gGmbH is a non-university research institute with the aim of researching the phenomenon of resilience, i.e. the maintenance or rapid recovery of mental health during or after acute or chronic stressful life circumstances. It investigates the mechanisms that mediate resilience, develops interventions that promote resilience and implements effective interventions in healthcare in companies, schools and universities.

For an MWG-funded project on real-time closed-loop neurostimulation, the Neurostimulation Group led by Prof. Til Ole Bergmann is looking for a

Postdoctoral Researcher (m/f/d)
Software Development and Signal Analysis for Real-Time Closed-Loop EEG-triggered Neuromodulation
(full-time, 100 %)

The position is initially limited to 2 years, with a possible extension depending on performance and availability of funding.

Your tasks include:

- Develop and validate software for real-time EEG-triggered transcranial ultrasound stimulation (TUS) for non-invasive neuromodulation and closed-loop control of deep brain regions, including the further development of existing solutions in collaboration with external partners.
- Implement low-latency EEG processing pipelines for artifact handling, online feature extraction, and brain-state detection.
- Integrate EEG acquisition and stimulation hardware through appropriate interfaces, including real-time data streaming, synchronization, and precise timing.
- Develop graphical user interfaces and ensure reliable operation through software testing, documentation, and close collaboration with the interdisciplinary research team.

Your profile:

- A university degree (diploma/master's) and PhD in computer science, biomedical engineering, engineering, biology, psychology, cognitive neuroscience, or a related field.
- Strong software development skills and practical programming experience, e.g. in Python and/or MATLAB; experience with real-time frameworks such as Simulink Real-Time is an asset.
- Strong expertise in biosignal processing, particularly EEG, and the implementation of online analysis algorithms.
- Experience with hardware interfaces, real-time data acquisition and streaming, and the synchronization of recording and stimulation systems.
- Experience in developing graphical user interfaces and a structured approach to software testing and documentation.
- Very good written and spoken English and the ability to communicate technical concepts across disciplines.
- An independent, precise and proactive working style, strong problem-solving skills, flexibility and a collaborative approach to interdisciplinary research.

We offer:

- a challenging, highly dynamic and science-driven working environment with flat hierarchies, responsibility and a great deal of creative freedom
- Flexible working hours and mobile working
- Job Ticket Subsidy
- Excellent public transportation access
- a wide range of training and development opportunities, e.g. via the Haufe Academy
- an employer-financed pension scheme for non-civil servants in the public sector (VBL)

The salary is up to EG 13 TV-UM (collective agreement of the University Medical Center Mainz).

Prof. Til Ole Bergmann, Head of the Neurostimulation Group, will be happy to answer any technical questions you may have by e-mail (til-ole.bergmann@lir-mainz.de).

Have we appealed to you? Then please send us your detailed application by e-mail only and in one coherent PDF file, stating your earliest possible starting date **by 15.12.2026:** recruiting@lir-mainz.de. Please enter the reference **number LIR_142** in the subject line.

Women are given preferential consideration for recruitment in the case of equivalent suitability, qualifications and professional performance, insofar and as long as there is an under-representation. This does not apply if there are such serious reasons in the person of an applicant that they outweigh the requirement for equal opportunities for women. Severely disabled applicants with equal qualifications will be given preference (proof required).

www.lir-mainz.de

Data protection information

Your personal data contained in the application documents or, if applicable, obtained in the interview will be processed exclusively for the purpose of the selection procedure for this advertised position.
The legal basis for data processing in the application process and as part of the personnel file is Section 26 (1) sentence 1 BDSG and Art. 6 (1) (b) GDPR and, if you have given your consent, for example by sending information that is not necessary for the application process, Art. 6 (1) (a) GDPR. The legal basis for data processing after a rejection is Art. 6 (1) (f) GDPR. The legal basis for storage under budgetary and tax law is Art. 6 para. 1 lit. c GDPR in conjunction with § SECTION 147 AO. Legitimate interest in processing based on Art. 6 para. 1 lit. (f) GDPR is the defense against legal claims.
As a rule, we do not require any special categories of personal data within the meaning of Art. 9 GDPR for the application process. We ask you not to send us any such information from the outset. If such information is exceptionally relevant to the application process, we will process it together with your other applicant data. This may, for example, concern information about a severe disability, which you can provide to us voluntarily and which we then must process in order to fulfill our special obligations with regard to severely disabled persons. In these cases, the processing serves the exercise of rights or the fulfillment of legal obligations arising from labor law, social security law and social protection. The legal basis for data processing is then Art. 9 para. 2 lit. b GDPR, §§ 26 para. 3 BDSG, 164 SGB IX. In exceptional cases, it may be necessary to obtain information about your health or a disability or information from the Federal Central Criminal Register, i.e. about previous convictions, in order to assess your suitability for the intended job. The legal basis for this is § 26 BDSG.
The person responsible for the application procedure is the addressee of the application specified below in this call for applications.
As part of the application process within the Leibniz Institute for Resilience Research (LIR), your personal data will be passed on to Members of the selection committee, the personnel administration, the equal opportunities officer, the representative for severely disabled persons and, if applicable, the works council within the scope of their organizational or legal responsibilities.
Your personal data will be deleted no later than six months after completion of the selection process. According to the GDPR, you have the following rights vis-à-vis the addressee of the application if the relevant legal requirements are met right of access (Art. 15 GDPR), right to rectification of inaccurate personal data (Art. 16 GDPR); data erasure (Art. 17 GDPR), restriction of processing (Art. 18 GDPR) and objection to processing (Art. 21 GDPR).

If you have any questions, you can contact the LIR data protection officer (datenschutzbeauftragte@lir-mainz.de).
You also have the right to lodge a complaint with the Rhineland-Palatinate Data Protection Officer.
Link to the privacy policy of LIR gGmbH: https://lir-mainz.de/datenschutz