

The Peter L. Reichertz Institute for Medical Informatics (PLRI) of TU Braunschweig and Hannover Medical School is seeking for a

**Research Assistant / Postdoc (m/w/d)**  
in  
**Sensor-based Patient-generated Data Science**

### **The Institute**

PLRI is a joint institute of TU Braunschweig and Hannover Medical School, and one of the largest university-based centers for medical informatics in Germany. As an academic institution belonging to two leading universities, comprising an institute of technology and a medical school, located in one of Europe's most research-intensive regions, PLRI offers excellent research opportunities. We collaborate in interdisciplinary projects with healthcare centers, research institutes, enterprises, and public organizations in order to shape the future of healthcare and medicine. Our activities range from the local level, as with institutions in Braunschweig and Hannover, to regional, national, and global corporations. Currently, the PLRI's Executive Director is the President of the European Federation of Medical Informatics.

### **The Position**

The position is open since the announcement and is limited to a period of five years. Earning a Ph.D. or habilitation is possible. Depending on your qualification and fulfillment of personal requirements, the remuneration is based on the salary level TV-L E13. International applicants will need to complete a visa process before hiring can take place. The position is based at PLRI Campus Braunschweig. The workplace is basically part-time suitable but should be 100 percent occupied.

### **Your Challenges**

The medical Internet of Things facilitates unobtrusive health monitoring of all aspects of people's life. Wearable sensors enable connecting directly to the body in order to continuously record movements or measure vital signs. Environmental sensors can capture people's behavior changes, leading to the potential detection of loss of functions. The same applies to sensor technology in vehicles. The successful applicant will develop systems and algorithms that enable the sensor data collected in the patient's living environment as a source of information for the healthcare system. Such sensors include photography, video, and acoustics. Particular challenges arise here in the task-specific selection of sensors, the aggregation, and fusion of the raw sensor data to a patient-specific situation picture, and the mapping of this situation picture to medical relevant information that can be further processed for data analysis and exchange. The application of the novel machine learning approaches (e.g., deep learning) to massive health data with high variety may show superior performance towards robust and patient-centered event prediction. The test bed of research is accident and emergency informatics, a novel and trans-disciplinary research field that we have established at PLRI.

### **Your Profile**

We are seeking outstanding candidates that have:

- completed, or are in the process of completing either a Master's degree or a Ph.D. in computer science, medical informatics, or comparable courses of study,
- experience in combining and analyzing sensor data,

- programming skills in mainstream data science programming languages such as Python, R and experience in software development,
- experience in research and outstanding published works in medical data science,
- familiarity with medical terminologies and semantic interoperability,
- excellent oral and writing skills in English (German language skills are advantageous),
- willingness to work closely with the interdisciplinary project team, and
- self-initiative and result-oriented working approach.

## Application Process

Please prepare your application documents in German or English as a combined PDF document consisting of

- a cover letter (including your motivation),
- a CV,
- your academic performance record (your grades during your Bachelor's and Master's studies including grading scale details),
- a proof of your language proficiency, and
- a copy of your Master's thesis or comparable student theses.

Please upload the documents at <https://drop.plri.de/> and send the link by e-mail to Prof. Thomas Deserno. Review of applications will begin with submission and will continue until the position is filled. Reimbursement of application costs is not possible.

TU Braunschweig is an equal opportunity employer and all qualified applicants will receive consideration for employment regardless of race, color, religion, sex, sexual orientation, gender identity, disability status, or any other characteristic protected by German law. Further, TU Braunschweig aims to increase the share of women in academic positions and therefore particularly welcomes applications from women. Severely disabled persons are entitled to special consideration (proof must be enclosed). During the application process, personal data will be stored electronically.

For further questions, please contact:

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