

Titel:

Research Assistant (Full Position, TV-L) (f/d/m)
in Digital Data Platform Development for Major Depression Research

Text:

The Hannover Medical School (MHH), with about 10.000 employees the largest public employer of Lower Saxony, is a university institution for research and teaching in the human and dental medicine and a university hospital of supra-maximum medical care. Research, teaching, medical care and administration work hand in hand in the integration model at the MHH-campus.

The Peter L. Reichertz Institute for Medical Informatics (PLRI) of TU Braunschweig and Hannover Medical School offers a position as Research Assistant (Full Position, TV-L) (f/d/m) in management and analysis of highly complex and heterogeneous data for depression research to be filled at the earliest possible date. PLRI, one of the largest university-based centers for medical informatics in Germany, is a joint institute of TU Braunschweig and Hannover Medical School. 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 health care centers, research institutes, enterprises and public organizations in order to shape the future of healthcare and medicine. Our activities ranges from the local level as with the institutions in Braunschweig and Hannover, through regional, national and global corporations.

Your Challenges and Tasks:

The offered full-time position is part of the inter-disciplinary, multi-site, third-party research project "P4D - Personalized, Predictive, Precise & Preventive Medicine for Major Depression". P4D is the largest German study to improve depression treatment and is funded by the BMBF – Bundesministerium für Bildung und Forschung (<https://www.mhh.de/en/presse/mhh-insight/startseite-news-detailed-view/fighting-depression-with-personalised-medicine>). Major Depressive Disorder (MDD) represents a debilitating health concern, being one of the most prevalent psychiatric disorders in Europe and the United States. P4D aims at improving the prediction of MDD treatment outcome, further stratifying MDD subtypes, and developing clinical decision aids.

The successful applicant is going to work in a P4D subproject that will establish a system for the secure storage, processing, management, and transport of health records (PLRI task) and omics data (task of the project partner LUH – Leibniz University Hannover) to facilitate the development of precision medicine approaches for MDD treatment. The system will serve as a digital data platform, providing data and processing interfaces to other P4D subprojects. Importantly, precision medicine requires the exploitation of various data types from different sources. Within the P4D platform, deep phenotyping as well as whole genome (epi)genotyping (among others) will be performed. The sequencing data will subsequently be analyzed, yielding downstream results such as information about genomic variants or DNA methylation. The major challenges induced by this approach are two-fold: 1) The volume of sequencing data (at least 3 TB per patient) requires suitable data compression to reduce storage costs as well as processing and transmission times (LUH task). 2) Regarding the health record data, the challenges lie in organizational aspects (such as its linkage to sequencing data) as well as in semantic interoperability of health record data from different sites (PLRI-task).

The successful applicant will be situated at MHH campus and work in close cooperation with computer scientists from LUH, physicians from several clinical sites, multiple other disciplines, industry, and the data integration center of the MHH. The successful applicant is expected to develop innovative novel approaches, publish them in high-quality scientific publications at renowned conferences and journals, and assist in the acquisition of follow-up third party funding as well as in administrative tasks of the institute.

Our requirements:

We are seeking outstanding candidates that have:

- obtained a Master's degree in the area of computer sciences, information systems, medical informatics, bioinformatics, business informatics, mathematics, or a comparable course of study
- good programming (Python, R, etc.) and software engineering skills in at least one of the following fields:
 - Management of medical and/or biological (research) data
 - (Clinical) Decision Support Systems
 - Machine learning, data mining, predictive modeling
 - Medical data science, medical knowledge engineering,
- experience with electronic data capture systems and related standards,
- interest in current health data interoperability standards used in the German Medical Informatics Initiative (openEHR, FHIR, etc.),
- good oral and writing skills in English and/or German
- willingness to work closely with an interdisciplinary project team,
- self-initiative and result-oriented working style, and
- experience in scientific publication is advantageous.

We offer:

- a full-time position (38.5 working hours per week) with one of the largest employers in the country, initially limited until August 31, 2025,
- Working in a motivated, team-oriented and international research team,
- a salary according to TV-L with the benefits of the public service (e.g., VBL),
- the possibility of obtaining a PhD,
- individual training and further education opportunities,
- a comprehensive company health management, and
- discount for employees (e.g. for numerous online shops).

International applicants will need to complete a visa process before hiring can take place. The position is based at PLRI Campus Hannover and part of *the PLRI research focus Medical Information Systems* (<https://www.plri.de/>).

You have any questions beforehand?

Prof. Dr.-Ing. Steffen Oeltze-Jafra
+49 (0)511 532 80830

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Reference number 1596

Apply until: 02/26/2023

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