# CHARITÉ

**CharitéCentrum für Neurologie, Neurochirurgie und Psychiatrie**

**The Centre for Population Neuroscience and Stratified Medicine (PONS) at the Clinic for Psychiatry and Psychotherapie at the Charité Unversitätsmedizin Berlin**

Is seeking for a

# Postdoctoral Research Fellow in Population Neuroscience

The Charité - Universitätsmedizin Berlin is a joint medical faculty, which serves both Freie Universität Berlin and Humboldt Universität zu Berlin. As one of the largest university hospitals in Europe with an important history, it plays a leading role in research, teaching and clinical care. It is ranked fifth best hospital in the world and best in Europe.

## Description of field of application:

We are seeking a talented and highly motivated colleague to carry out multimodal, multivariate analyses using representational statistical models, including deep learning approaches to identify risk constellations and neurobehavioral trajectories for mental disorders, their moderation by global environmental challenges and their neurobiological mediation. The research will involve comparative analyses of large scale behavioural neuroimaging datasets in Europe, India, China and USA. Applying advanced statistical methods and innovative methodology, such as remote sensing satellite data and climate models, the project seeks to investigate how environmental challenges associated with urbanisation, climate change, pollution or pandemics shape brain structure/function and behaviour, and how these changes are influenced by genetics. PONS Charite works in close collaboration with its partner institute PONS Fudan, at the Institute of Science and Technology for Brain-inspired Intelligence (ISTBI), Fudan University, Shanghai.

## Areas of responsibility:

• Take a leading role in development, adaptation and implementation of state of the art stratification and prediction techniques, including advanced representational approaches.
• Apply these approaches to large scale, high dimensional datasets involving neuroimaging, behavioural, environmental and –omics.
• Take a leading role in the publication and dissemination of data.
• Present at academic meetings and contribute to the visibility of the project and its aims.
• Work as a conscientious and committed member of the team in order to achieve the aims of the project.
• Assist with the supervision of PhD and MSc candidates and with the general running of the group.

## Your Profile:

• PhD in a relevant discipline (computer science, biomathematics) awarded, or thesis submitted, or thesis near completion.

• A very good understanding of biomathematical and computer science methods applicable for phenotype stratification and prediction.
• Experience of working with behavioural, epidemiologic and/or biological datasets.
• Thorough conceptual understanding and experience on advanced statistical techniques such as machine learning or/and deep learning methodology.
• Evidence of the ability to publish in high-impact scientific journals.
• Solid understanding of R or python data science methodology.
• Strong interpersonal skills, including willingness to introduce and help other colleagues with mathematics/statistics skills.
• Good organisational skills.
• Professional and enthusiastic attitude.
• German language skills desirable, but not essential.

**Starting Date:**

01.01.2022

**Length of employment:**

12 months (with a possibility of contract extension)

**Working time (hrs./week):**

40 hrs/week

**Application:**

Applicants should send the application materials to Jeanne.winterer@charite.de and the subject of the email should indicate the position + name. Application information includes:
  (1) Cover letter, including research plan
  (2) CV
  (3) Certificates, Attestations

**Contact information:**

For questions, please do not hesitate to contact Professor Gunter Schumann, email: gunter.schumann1961@gmail.com and Matthias Baeumle, email: matthias.baeumle@charite.de.