Hertie-Institut
für klinische Hirnforschung

PhD Position

in genetics of rare neurodegenerative diseases at the Hertie Insitute for Clinical Brain Research

The Hertie Institute for Clinical Brain Research (HIH), together with the Department of Neurology, forms the Center for Neurology at the University of Tübingen. It is dedicated to basic and translational research in neurological diseases. Together with several other highly advanced neuroscience institutes, it is part of the Tübingen Neuro Campus (TNC), here working closely together also with the German Center for Neurodegenerative Diseases (DZNE). Scientists in the more than 100 active research groups of the TNC pursue theoretical, system-neuroscientific, molecular, and clinical research approaches in their entire breadth using a wide range of methods.

The research division „Translational Genomics of Neurodegenerative Diseases" of Prof. Synofzik, **PhD student, TVL E13, 65%, 3 years (extension possible).**

About us

The research division „Translational Genomics of Neurodegenerative Diseases" of Prof. Synofzik focuses on genomics, pathophysiology and translational biomarker research in the field of neurodegenerative diseases, with a special focus on genetic ataxias, motor neuron diseases, and dementias. Prof. Synofzik coordinates several large trans-European consortia on translational neurodegeneration in rare movement disorders and serves as PI of several large-scale national and international longitudinal cohort studies. We offer excellent projects and training in neurodegeneration and molecular biology research. Specifically, we cover the full pipeline of rare disease gene hunting and validation, starting with a wide range of omics datasets available to our lab (e.g. exome, short-read and long-read genomes, RNAseq, proteomics), validated by a manifold molecular, protein biochemical and cell biological methods used in the lab (e.g. next generation sequencing, Sanger sequencing, qPCR, western blotting.

The PhD Project

As part of the "GenATAX" project, you will be integrated into several translational research lines for advanced bioinformatic analysis of next generation sequencing and related multi omics data (RNAseq, long-read sequencing data) to identify and functionally assess novel genetic causes of inherited ataxia disorders. You will work with the largest collection of ataxia NGS data worldwide (>3700 datasets) on which to perform cohort-based and family-based analyses, from which to identify candidate genetic variants. Furthermore, the candidate will develop and implement new computational strategies to analyze and integrate readily available NGS data with other multi-omics datasets. While the focus will be on bioinformatics, you can - based on your interest - also be involved in the validation of candidate variants through functional assessments (e.g. (Sanger) sequencing, qPCR, western blot, patient-derived) cell culture). You will receive an excellent training in rare disease bioinformatic genetic analyses, either established on site or, through collaboration with bioinformatics cores across the Tübingen research campus and through international collaborations. You will work collaboratively within our team to report the results and progress at conferences and scientific journals.

Your background

- You have a Master's degree in Bioinformatics, Biostatistics, Molecular Genetics, or related life sciences.
- Experience with the analysis of NGS/omics data
- Proficient programming experience in R, Python, Linux, or similar
- Prior knowledge in bioinformatics/biostatistics analysis of genetic data (WES, WGS, RNAseq) is a clear plus
- Very good proficiency in English (oral and written) is mandatory.

We offer

We offer a challenging interdisciplinary translational project that is integrated into major national and European research consortia at the interface of genomics and translational medicine, well-equipped laboratories with top-notch facilities, excellent supervision in a highly collaborative international environment and affiliation with the Graduate Training Center of Neuroscience. The position is available starting Summer-Autumn 2023. Salary will be determined according to the German collective wage agreement in public service (TVL 13, 65%). Appointment is full time and will be initially for three years with the possibility of extension. We give priority to severely disabled applicants with essentially equal qualifications. This position will be **funded by the Hertie Network of Excellence in Clinical Neuroscience**.

Application

If you are interested in this project please send your full application within one PDF file. This should include:

- Cover letter outlining (i) how you meet the requirements for the position, (ii) relevant details of your past research projects, and (iii) an explanation of how your previous experience lends itself to this PhD research project. (~750-1000 words).
- Curriculum vitae
- Names and email addresses of two professional references (e.g., current or previous research advisors).
- Transcripts, your master's thesis and/or publications.

Please send this PDF to: Dr Danique Beijer: danique.beijer@uni-tuebingen.de

Deadline: 23.06.2023

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