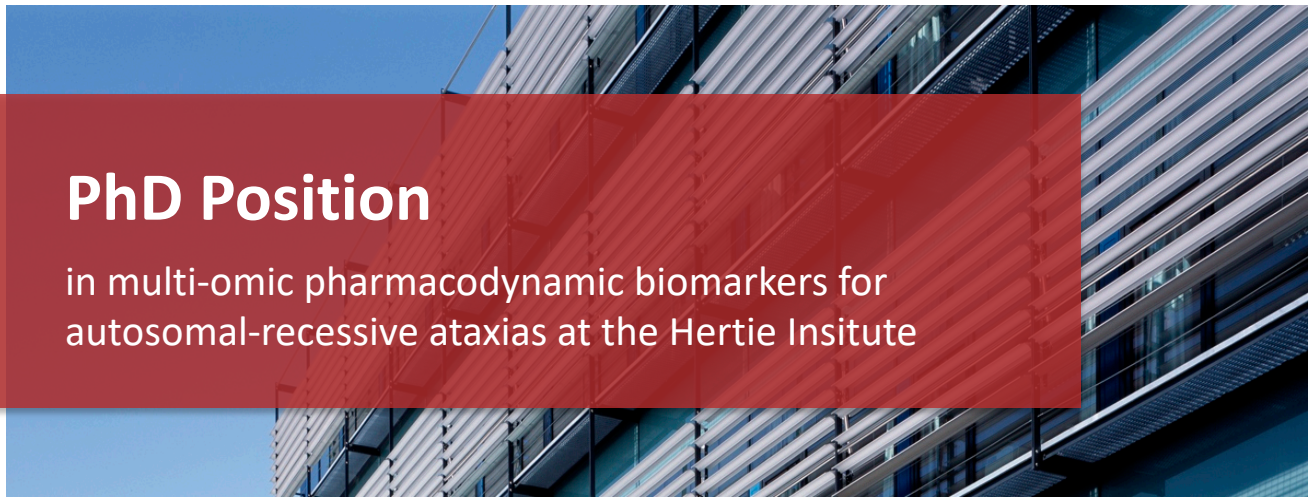
Hertie-Institut
für klinische Hirnforschung



PhD Position

in multi-omic pharmacodynamic biomarkers for autosomal-recessive ataxias at the Hertie Insitute

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 the several other highly advanced neuroscience institutes, it is part of the TübingenNeuroCampus (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 is currently looking for a **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. A wide range of molecular, protein biochemical and cell biological methods are applied in the lab (e.g. exome/genome sequencing, Sanger sequencing, qPCR, Western Blotting, ELISAs, and cutting-edge ultra-sensitive protein analysis including SIMOA and Luminex technology). Biomarkers are identified in cell culture models, human and murine blood and/or CSF, and validated in patient cohorts.

The PhD Project

You will identify and validate pharmacodynamic biomarkers in two autosomal-recessive ataxia disorders (ARSACS and COQ8A) using an integrated mouse/human cross-species cross-model pipeline. Fluids (CSF, blood) from mice models and tissue from cell models of ARSACS and COQ8A treated with novel disease-modifying drugs (the corresponding cell and animal work will be performed by collaboration partners and will not be part of this project) will be analyzed with unbiased transcriptomic and proteomic techniques to establish molecular treatment signatures and identify treatment response markers. Biomarkers candidates will be validated in human fluids (CSF, blood) using targeted assays (qRT-PCR, MSD ELISA, and ultrasensitiveLuminex and Simoa assays) to ensure direct relevance of findings for the human condition.

Your background

- You are creative, highly motivated and you are able to work independently.
- Prior methodological experiences: For this project, you have already worked previously with a broad range of molecular techniques, including: qRT-PCR, Western Blot, ELISA, and ultrasensitive immunoassays. Ideally, you have also already worked with unbiased omics methods (transcriptomics, liquid chromatography–mass spectrometry), but this is not a necessary prerequisite.
- Ideally, you also already have experience in protein biomarker work - either proteomics or targeted protein assays, in particular on ultra-sensitive protein platforms.
- Essential qualities include fluency in English and a strong team spirit.
- You have a Master's degree in Biochemistry, Biology, Bioinformatics, Molecular Genetics, or related life sciences.

We offer

We offer a challenging interdisciplinary 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 immediately. 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 renewal. We give priority to severely disabled applicants with essentially equal qualifications.
This position will be funded by the 'Bundesministerium für Bildung und Forschung' (BMBF) via funding for the European Joint Programme Rare Diseases 2020 (EJPRD).

Have we sparked your interest?

If you are interested in this project please send your full application within one PDF file, including a cover letter, your CV, names and email addresses of two professional references, transcripts, your master's thesis and/or publications to Mrs Selina Reich (Research Division Prof. Synofzik): selina.reich@uni-tuebingen.de,
Deadline: 20.10.2021

Matthis Synofzik
Head, Research Division Translational Genomics of Neurodegenerative Diseases, Department of Neurodegenerative Diseases
Hertie Institute for Clinical Brain Research