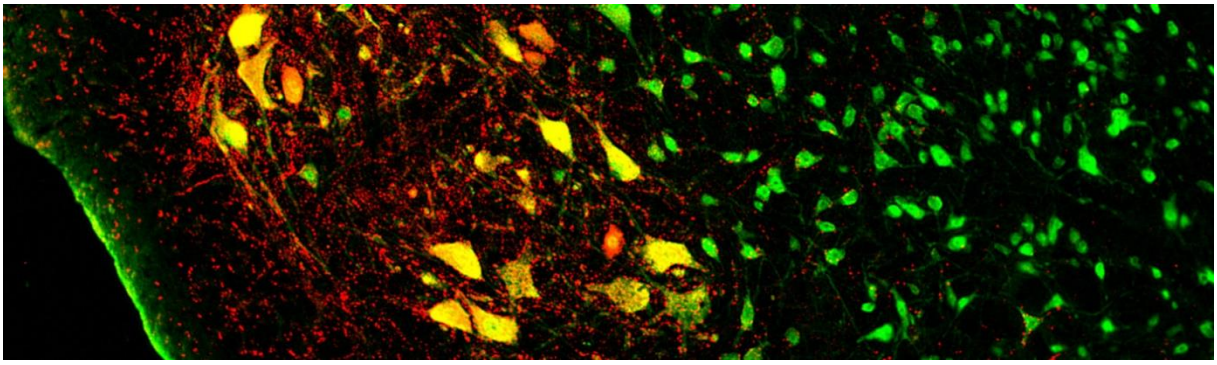
Medizinische Fakultät Mannheim
der Universität Heidelberg

Universitätsklinikum Mannheim



PhD position(s) available in the Division of Neurodegeneration, Medical Faculty Mannheim, Heidelberg University (23.04.2021)

We are offering two PhD student positions to investigate molecular mechanisms of neurodegenerative diseases and develop new therapeutic targets. The Division of Neurodegeneration is part of the Neurology Clinic of the Mannheim Medical Faculty and University Hospital Mannheim. With a strong translational background, our research and clinical unit covers the neurodegeneration topic from molecular biology and genetics to specialized patient care and clinical studies.

There are two active lines of research for which we are offering PhD student positions:

- Analysis of new genetic mouse models for amyotrophic lateral sclerosis (ALS) for mechanistic in vivo follow-up of disease gene discoveries by our group. Respective knock-in mouse strains have already been successfully generated. Methods will include state-of-the-art molecular biology but also single cell RNA sequencing. Previous research experience with rodent models would be an advantage (FELASA B certificate).
- Another project will take advantage of iPS cells from patients with defined genetic causes for ALS or an atypical Parkinsonian syndrome. The project includes studies in iPSC-derived model systems to investigate on the role of neuron-glia interaction and to develop new therapeutic paradigms for high-throughput screening of small molecule compounds.

The anticipated starting dates will be early summer 2021.

Please send respective applications with CV including research experience to Prof. Jochen Weishaupt (jochen.weishaupt@medma.uni-heidelberg.de). If you have any additional questions at this point, please contact also Prof. Weishaupt (0621 – 383 1770).

Selected publications:

- Freischmidt A, Goswami A, Limm K, Zimyanin VL, Demestre M, Glaß H, Holzmann K, Helferich AM, Brockmann SJ, Tripathi P, Yamoah A, Poser I, Oefner PJ, Böckers TM, Aronica E, Ludolph AC, Andersen PM, Hermann A, Weis J, Reinders J, Danzer KM, Weishaupt JH. A serum microRNA sequence reveals fragile X protein pathology in amyotrophic lateral sclerosis. **Brain**, 2021, doi: 10.1093/brain/awab018. Online ahead of print.

- Brenner D, Sieverding K, Bruno C, Lüningschrör P, Buck E, Mungwa S, Fischer L, Brockmann SJ, Ulmer J, Bliederhäuser C, Philibert CE, Satoh T, Akira S, Boillée S, Mayer B, Sendtner M, Ludolph AC, Danzer KM, Lobsiger CS, Freischmidt A, Weishaupt JH. Heterozygous Tbk1 loss has opposing effects in early and late stages of ALS in mice. **J Exp Med**. 2019 Feb 4;216(2):267-278.
- Brenner D, Yilmaz R, Müller K, Grehl T, Petri S, Meyer T, Grosskreutz J, Weydt P, Ruf W, Neuwirth C, Weber M, Pinto S, Claeys KG, Schrank B, Jordan B, Knehr A, Günther K, Hübers A, Zeller D; German ALS network MND-NET , Kubisch C, Jablonka S, Sendtner M, Klopstock T, de Carvalho M, Sperfeld A, Borck G, Volk AE, Dorst J, Weis J, Otto M, Schuster J, Del Tredici K, Braak H, Danzer KM, Freischmidt A, Meitinger T, Strom TM, Ludolph AC, Andersen PM, Weishaupt JH. Hot-spot KIF5A mutations cause familial ALS. **Brain**, 2018. doi: 10.1093/brain/awx370.
- Zondler L, Müller K, Khalaji S, Bliederhauser C, Ruf WP, Grozdanov V, Thiemann M, Fundel-Clemes K, Freischmidt A, Holzmann K, Strobel B, Weydt P, Witting A, Thal DR, Helferich AM, Hengerer B, Gottschalk KE, Hill O, Kluge M, Ludolph AC, Danzer KM, Weishaupt JH. Peripheral monocytes are functionally altered and invade the CNS in ALS patients. **Acta Neuropathol**, 2016. 132(3): p. 391-411.
- Feiler MS, Strobel B, Freischmidt A, Helferich AM, Kappel J, Brewer BM, Li D, Thal DR, Walther P, Ludolph AC, Danzer KM, Weishaupt JH. TDP-43 is intercellularly transmitted across axon terminals. **J Cell Biol**, 2015. 211(4): p. 897-911.
- Freischmidt A, Wieland T, Richter B, Ruf W, Schaeffer V, Müller K, Marroquin N, Nordin F, Hübers A, Weydt P, Pinto S, Press R, Millecamps S, Molko N, Bernard E, Desnuelle C, Soriani MH, Dorst J, Graf E, Nordstrom U, Feiler MS, Putz S, Boeckers TM, Meyer T, Winkler AS, Winkelman J, de Carvalho M, Thal DR, Otto M, Brannstrom T, Volk AE, Kursula P, Danzer KM, Lichtner P, Dikic I, Meitinger T, Ludolph AC, Strom TM, Andersen PM, Weishaupt JH. Haploinsufficiency of TBK1 causes familial ALS and fronto-temporal dementia. **Nat Neurosci**, 2015. 18(5): p. 631-6.