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Universität
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Medizinische Fakultät

MAX PLANCK INSTITUTE
FOR BIOLOGY OF AGEING



The Division of Child Neurology at the Department of Pediatrics and Department of Molecular Genetics of Ageing at the Max Planck Institute for Biology of Ageing are looking for medical students for comprehensive experimental theses.

Doctoral Theses for MD Students (m/f/d)

The projects involve early-onset neurodevelopmental and immunological disorders due to deficient mechanisms in macroautophagy, the evolutionarily conserved pathway involved in intracellular degradation of dysfunctional proteins and organelles. We utilize a combined approach with deep phenotyping, human molecular genetics and the roundworm *Caenorhabditis elegans* as a model organism, combining systems biology, cell and molecular biology, imaging, biochemistry and mass spectrometry, in order to understand the biology of early-onset and age-related deficits in autophagy in neuronal and immune cell longevity, and pinpoint mechanisms for disease reversal strategies.

Depending on your interests, your tasks may include:

- Clinical work with patients with rare inborn neurodevelopmental and/or immunological disorders, e.g., deep phenotyping in out-patient clinics and assessment of brain imaging in large cohorts.
- Human molecular genetic and multi-omics work on genetic discovery and genotype-phenotype correlation studies of rare inborn neurodevelopmental and/or immunological disorders, e.g., exome sequencing, transcriptomics, proteomics, metabolomics.
- Functional assays in human cellular studies and/or the model organism *Caenorhabditis elegans* to assess the effect of autophagy perturbation on neurodevelopmental, neurodegenerative, and immunological aspects at health and disease.

Your qualifications may include:

- Good communication skills in English.
- 6 months full-time for experimental lab work, or 12 months part-time for clinical work.
- Previous experiences in pediatrics, neurosciences, or molecular genetics are welcomed.

Please do not hesitate to contact us for questions and send an application with a CV and letter:

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websites: <https://uni.koeln/8FM2Q> & <http://age.mpg.de>

References

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