Research Theme
Neuroscience and Mental Health/Translational Neuroscience

Research Project Title
Research into Early Disease Mechanisms of Neurodegenerative Diseases

Principal Investigator
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Project Description
The detection of early pathogenic mechanisms leading to the development of neurodegenerative diseases can provide us with early predictive and diagnostic tools related to disorders with devastating consequences and affecting millions of patients and their families worldwide. An early detection of disease development, combined with appropriate preventive and therapeutic measures, would be instrumental in preventing and/or postponing disease development and thereby saving healthy life years for millions of people. However, an early detection would require a better understanding of the neurobiological mechanisms leading to disease development and progression. The present research theme focuses on this conundrum.

Glial populations in the Central Nervous System (CNS) are safeguarding the healthy functioning of the brain and the spinal cord. They also have sentinel functions: Early changes in glial functions and morphology, accompanied by the change of the glial transcriptome and proteome (and their metabolic consequences) can be indicative for the onset and progression of diseases. Consequently, the early dysfunctions of glial populations may signal neurological disorders, including neurodegenerative diseases. Our research efforts aim to establish “glial profiles” in healthy conditions, pre-morbid states and in neurodegenerative diseases and use these “normal”, “pre-morbid” and “pathological profiles” to identify predictive and early biomarkers of neurodegenerative diseases.

Contact Us
If you have questions regarding this project, please email the Principal Investigator.
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