PhD position available starting March, 1st 2023

Project: “Astrocyte-mediated synaptic phagocytosis in emotional and social dysfunctions”

Astrocytes control several aspects of synaptic formation, elimination (pruning) and function. Major Depressive Disorder (MDD) is a complex psychiatric illness, which displays disrupted synaptic communication and neuronal connectivity, thus suggesting a putative role for astrocyte-synapse interactions in its pathogenesis. Aim of this project is to identify the intracellular and intercellular molecular pathways impaired in the astrocyte-mediated synaptic phagocytosis/pruning in emotional and social dysfunctions. To reach this goal, we apply pharmacogenetic manipulations of target genes of interest in brain-derived-rat astrocytes/neurons and organoid-derived-human astrocytes, stereotactic surgery, AAV-mediated RNA interference in vitro and in vivo, pharmacological treatments combined with behavioral studies and histological methods (immunofluorescent-histochemistry, western blots, qPCR, in situ hybridization, IMARIS-mediated examinations of astrocyte morphological changes, expansion microscopy, confocal microscopy) on rat and human tissues.

Start of funding on March, 1st 2023. The position is funded for up to three years, according to the German pay scale TV-L E13 (65%). The project is part of the DFG graduate program “Neurobiology of Social and Emotional Dysfunctions” GRK 2174 (https://www.uni-regensburg.de/research/grk-emotion/grk-home/index.html).

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