



PhD position available

Project: “Identification of molecular pathomechanisms in a human cellular model of major depressive disorder: From bioenergetics to network activity”

Major depressive disorder (MDD) is a severe mental disorder affecting 350 million people worldwide. The molecular mechanisms underlying the cause and the progress of this complex disease are still not completely understood. To search for and characterize molecular pathomechanisms associated with MDD, we use skin fibroblasts of MDD patients and healthy controls and reprogram the cells into induced pluripotent stem cells, which are then differentiated into neurons and astrocytes. By comparing functional parameters in depressed vs. control neurons as well as astrocytes, we investigate the bioenergetic capacity, intracellular signaling pathways, and neuronal communication by means of respirometry and live cell imaging (calcium imaging, voltage-sensitive dyes), as well as molecular, pharmacological and electrophysiological (patch-clamp) approaches.

Start of funding on May 1st, 2023. 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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<https://www.uni-regensburg.de/medizin/psychiatrie-psychotherapie/forschung/molekulare-neurowissenschaften/index.html>

