The NeuroCure Research Fellow Dr. Agata Witkowska and Prof. Dr. Volker Haucke are looking for a

MSc Student

to join the Synaptic Membrane Remodeling project group at the Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP).

Project title:
Investigation of synaptic membrane shaping with model membrane systems

Project description:
During our lifetime neurons undergo extensive membrane remodeling: starting from neurodevelopment and the growth of axons and dendrites, through synapse formation followed by selective pruning, during sustained neurotransmission, and, finally, during learning and memory formation (so called synaptic plasticity). These complex events have to be orchestrated by elaborate signaling cascades, and locally specialized membrane remodeling machineries that are able to couple local intracellular scaffolds (like at the presynaptic active zone or the postsynaptic density) to membrane shape, trafficking organelles, and to the cytoskeleton.

The aim of this project is to investigate biophysical and molecular mechanisms of synaptic membrane remodeling during activity and synaptic plasticity using a bottom-up approach consisting of model membrane systems (such as GUVs - giant unilamellar vesicles) and purified proteins. Methods that will potentially be used in this project involve: live and super-resolution microscopy, fluorescence spectroscopy, protein purification, preparation of liposomes and GUVs, biophysical modelling.

Application:
The position is to be filled as soon as possible. We seek highly motivated and ambitious young scientists. Prior experience in membrane biophysics is not required; however, candidates with experience in protein purification, model membrane systems, microscopy, and/or biophysical modelling are especially encouraged to apply.

Please submit your application including a concise statement of research interest, CV, copies of academic transcripts, along with contact information for letters of reference to Dr. Agata Witkowska (witkowska@fmp-berlin.de).