

Master or MD Student: Ultrastructural Organization of the Active Zone

Department of Functional Neuroanatomy of Heidelberg University is searching for a master student for STORM imaging in neuronal tissue.

Project

The aim of this project is to delineate the **precise ultrastructural organization of active zones**. While the molecular players of presynaptic function are mostly known, their organization in three dimensional (3D) space is only poorly understood. Yet, given that action potential-induced transmitter release is a highly precise mechanism, the underlying protein machinery needs to be highly organized in 3D space. This project will employ the super-resolution microscopy method **3D dSTORM** (direct stochastic optical reconstruction microscopy) equipped with an **automated pipetting system** to investigate the **spatial arrangement of active zone proteins**. As our model tissue we use thin brain slices (400 nm) of the calyx of Held, a biophysically well-studied glutamatergic synapse of the mammalian central nervous system. For more information on this project, please contact Maja Klevanski via klevanski@ana.uni-heidelberg.de.

Profile

- You have a **good understanding of neurobiology** and a **keen interest in super-resolution microscopy**.
- You have a clear interest in quantitative approaches and have experience with **image analysis**.
- A good understanding of mathematics, physics, statistics and **programming** is highly advantageous.
- A critical scientific and quantitative attitude is encouraged.

Supervision

Prof. Dr. Thomas Kuner
Dr. Maja Klevanski

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Procedure

- Please send your application, containing a motivation letter, CV and certificates to Maja Klevanski: **klevanski@ana.uni-heidelberg.de**.
- We look forward to receiving your application by the end of **July, 2018**.
- Starting date: as soon as possible from **August 1st, 2018**.
- Please consider a three-week practical before you officially start with your master or MD position.