Neuroscience Colloquium

Winter Semester 2018/2019

Lectures are held Thursdays, 5 p.m.
Venue: Paul-Ehrlich Lecturehall, Virchowweg 4, next to CCO

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Trafficking and fusion of secretory vesicles in human and mouse CNS neurons.

The regulated secretion of chemical signals in the brain occurs principally from two organelles, synaptic vesicles and dense core vesicles (DCVs). Compared to the detailed knowledge on how synaptic vesicles dock, prime, fuse and recycle, we know very little about DCVs. DCVs contain a diverse collection of cargo, including neurotrophins and neuropeptides that trigger a multitude of modulatory effects with quite robust impact, for instance on cell survival, proliferation, plasticity and at the macroscopic level, memory, mood, pain, appetite or social behavior. However, many fundamental questions remain open on DCV trafficking and secretion. My lab has established new photonic approaches to quantitatively characterize DCV-trafficking and fusion of many cargo types in living CNS neurons with single vesicle resolution. Most recently, we have also performed such studies in human, iPSC-derived neurons in vitro and in vivo. In this lecture I will present our most recent findings using these approaches on DCV trafficking and secretion, the molecular factors involved, the dynamics and the cellular locations where DCVs fuse.

Location: Paul Ehrlich-Hörsaal,
Charité – Universitätsmedizin Berlin, Campus Mitte
Virchowweg 4, next to CCO

Date: Thursday, **January 17th, 5 p.m.**

Host: Alexander Walter

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