Neuroscience Colloquium

Summer Semester 2018

Lectures are held Thursdays, 5 p.m.
Venue: Westphal Hörsaal (Nervenklinik), Bonhoefferweg 3

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A circuit model of drug addiction: synaptic mechanisms and therapeutic implications

Our lab studies the cellular mechanisms that underlie drug reinforcement and addiction. We believe that addiction can be understood as a sequence of neuroadaptive changes starting in the mesolimbic system, expanding to other parts of the brain with chronic use. Drug-evoked synaptic plasticity which refers to altered synaptic transmission that persists beyond the presence of the drug in the brain, may represent a trace that shapes circuit function and eventually leads to compulsive consumption. We study drug-evoked synaptic plasticity in the ventral tegmental area (VTA) and the nucleus accumbens (NAc) with a wide range of methods including electrophysiology in vitro and in vivo. We also take advantage of genetic approaches to probe the role of specific proteins (e.g. knockout approaches) or manipulate the activity of identified neurons (e.g. optogenetics). Our work aims at correlating synaptic changes to behavior and design in vivo stimulation protocols to reverse drug-evoked plasticity to abolish drug-adapative behavior.

Location: Westphal Hörsaal (Nervenklinik),
Charité – Universitätsmedizin Berlin, Campus Mitte
Bonhoefferweg 3

Date: **Thursday, June 21st, 5 p.m.**

Host: Craig Garner

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