Universität Basel

Research Project

Deciphering Basal Ganglia Sub-circuits involved in Motor and Cognitive Functions

Third-party funded project

Project title Deciphering Basal Ganglia Sub-circuits involved in Motor and Cognitive Functions
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Organisation / Research unit
Departement Biozentrum / Physiopathology of basal ganglia neuronal subcircuits (Tan)
Department
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Parkinson's disease is characterised by the degeneration of Dopamine neurons. The loss the dopamine neuromodulation leads to dysregulation of several synapsesă and sub-circuits that are important for motor and cognitive functions. We investigate these dysfunctions at the level of cellular specificity, synaptic plasticity and behaviour. To do so we employ a range of state of the art technique including anatomical mapping, slice physiology, optogenetics and pharmacology, in vivo electrophysiology, in vivo calcium imaging and behaviour. Our main goal is to develop a circuiy-based strategy to compensate at the level of the synapse dynamic, for the motor and cognitive symptoms.ă

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Follow-up project of 3746910 Rewiring of inhibitory circuitries in Parkinson's disease