



Universität
Basel

Research Project

Connecting visual and cognitive brain circuits

Third-party funded project

Project title Connecting visual and cognitive brain circuits

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Organisation / Research unit

Institute of Molecular and Clinical Ophthalmology Basel (IOB)

Department

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Status Completed

Visual input to the brain drives different functions. While mechanistic insights into how visual circuits drive reflexes, entrain daily rhythms, and lead to a percept have been obtained in the last decades, little is known about how visual circuits interact with circuits involved in high level cognitive functions. In this project, we aim to examine the link between the circuits involved in generating head direction signals and the circuits that are part of the early visual system. We make use of genetic and viral-tracing tools as well as single cell resolution in vivo electrophysiology and imaging in freely moving and head fixed mice to attack these questions. The importance of this project is that it provides a causal link between vision and cognition. We foresee that knowledge emerging from this work could reveal new principles about how vision serves different cognitive systems by providing specifically preprocessed input.

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