

Look and touch: establishing the first insect model for visually guided reaching.

Initiative: "Experiment!" (beendet)

Ausschreibung: Explorative Phase

Bewilligung: 27.11.2018

Laufzeit: 1 Jahre 6 Monate

Projekt-Website: <https://www.biozentrum.uni-wuerzburg.de/zoo2/forschung/ag-stoeckl/>

We do it hundreds of times a day, when pressing a button, or grabbing a cup of tea: we see objects and reach for them with our arms and hands. Visually guided reaching is a central feature of human life, and great resources have been dedicated to dissecting the neural basis of this ability - not least because this understanding is instrumental to the development of prosthetics, as well as multitudes of other technical applications. However, executing this seemingly simple behaviour is an impressive feat by our nervous system and dissecting the mechanistic basis of visually guided reaching down to the contributions of individual neurons is still beyond the grasp of current research. This project proposes to establish the first insect model to study visually guided reaching using the hawkmoth *Macroglossum stellatarum*. In this simple system, circuits can be dissected down to the contributions of individual neurons, making it feasible to mechanistically understand the neural control strategy. This project might not only add a new ability to our knowledge of the insect behavioural repertoire, but will also provide a simple model to understand how visually guided reaching is implemented in a nervous system, allowing to identify common strategies with the vertebrate system and serving as a model for technical applications.

Projektbeteiligte

Dr. Anna Stöckl

Universität Würzburg

Fachbereich Biologie

Biozentrum

Lehrstuhl für Zoologie II

Würzburg