



## Computer-assisted neuronal circuit dissection

The project aims to resolve how information is processed in neural circuits in order to control behavior.

We investigate the neuronal network in 1) simple directed navigational decision and 2) learning dependent plasticity of fruit fly larvae in response to various visual stimuli by state-of-the-art of high-resolution behavioral analysis and molecular genetics.

### Task includes:

- Developments of scripts to deeper analyze recorded behavioral data (we use MTW for recording, Swierczek et al., 2011, Nature Methods).
- Refinement of behavioral parameters and features as well as development and identification of novel relevant output data.
- The model allows genetic manipulations of individual circuit components (delete them, increase or decrease output): Establishing a coherent model of all known circuit components for how data is being processed.

A candidate should

- Hold a masters degree in informatics, mathematics, physics or biology.
- Have a strong background in programming.
- Be collaborative, creative and independent.
- A background in in computer vision and/or systems neuroscience would be a plus.

The position is fully funded on highly competitive Swiss standards.

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