The neural basis of decision making in *Drosophila* larvae

The Vogt lab is looking for a PhD candidate to explore the neural mechanisms underlying decision making in the fly larva.

To optimally explore and exploit the environment, animals should adapt their behaviors according to all available information, such as present sensory and social context, former experience, and their internal state. But how does the brain integrate such multi-sensory and state-dependent information in different contexts to inform decision making? To explore this question, we are working with the *Drosophila melanogaster* larva, where we benefit from a rich genetic toolkit which allows visualizing and manipulating anatomically well-known cell types in the brain. My lab is investigating the neural circuits underlying decision making:

- Under different social contexts (for example: cannibalism)
- Under different internal states (for example: hungry vs. fed)
- When exposed to conflicting cues (for example: attractive odor vs. aversive light)

We approach these questions by performing behavioral experiments combined with using genetic tools (such as optogenetics), by analyzing connectomics data, and by performing functional imaging in fly larvae.

We are looking for a PhD candidate to join our interdisciplinary team at the Department of Biology and the Centre for the Advanced Study of Collective Behaviour (CASCB) at the University of Konstanz.

The successful candidate will work on one of our decision-making paradigms, using a combination of behavioral assays and neurogenic tools. Candidates are also encouraged to propose their own research project.

**Start date:** Spring 2022  
**Main supervisor:** Dr. rer. nat. Katrin Vogt (katrin.vogt@uni-konstanz.de)
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Requirements:
- MSc in Neuroscience, Biology, Computer Science, Physics, or a related field.
- Excellent communication and writing skills in English.
- Basic programming and data analysis skills, using at least one programming language (preferably Python), or the willingness to develop these abilities.
- Applicants with hands-on experience in functional imaging, molecular techniques, and/or instrumentation control are particularly welcome to apply.

Application:
Interested candidates should apply via the IMPRS-QBEE online platform (www.ab.mpg.de/3228/imprs). Applications should include a CV, a research statement (less than 1 page with academic background, research experience, interests, and goals), and the contact details of two potential referees.