MAX-PLANCK-INSTITUT
FÜR CHEMISCHE ÖKOLOGIE

The Research Group Olfactory Coding, (headed by Dr. Silke Sachse) and the Insect Behavior Group (headed by Dr. Markus Knaden) in the Department of Evolutionary Neuroethology at the Max Planck Institute for Chemical Ecology offer a

3-year PhD position to study experience-dependent modulation of olfactory circuits in the brain of *Drosophila*

Background:

The project is funded by the new Research Unit FOR 5424 'Modulation of Olfaction' of the DFG (German Research Foundation) and will be co-supervised by Silke Sachse and Markus Knaden. During its life an animal is constantly exposed to a plethora of olfactory inputs, many of them being essential for the animal's survival and reproduction. While certain odours induce an innate and stereotyped behavioral output, odor-based behavioral decisions are largely modulated by physiological state, specific context and previous experience. However, the neuronal mechanisms underlying this modulation remain largely elusive.

Project description:

The goal of this PhD project is to study experience-dependent modulation along the olfactory circuitry. We will employ classical learning paradigms, but also establish novel learning assays that include an ecological relevant context, such as oviposition and mating. Moreover, using 2-photon functional imaging, we aim to elucidate modulation in specific neuronal populations of the olfactory pathway as well as study the underlying neuronal mechanisms using neuro- end optogenetic tools.

Candidate profile:

We are looking for a highly motivated and creative candidate with training in neurophysiology or neurogenetics. Experiences with *Drosophila* research and/or insect behavior is preferred. A master's degree in Neuroscience, Biology or related discipline is required for this PhD position.

How to apply:

The Max-Planck Society is an equal opportunity employer and strives to employ both genders equally, as well as to employ more individuals with disabilities. Therefore, we encourage all applicants, independent of their nationality, gender or disability, to apply for this position. Please send your application as a single pdf in English including a letter of motivation, summarizing your experience and future vision, CV, list of publications and relevant certificates (degree certificates, etc.) and the names of two referees (including email address) to here.

Deadline: April 30th, 2023.