

(Post-)Doctoral position in Computational Neuroscience (Regensburg University)

PhD or postdoctoral position,
salary according to 66% or 100% TVL-E13,
for 3 years, starting August 2024 or later

Your task:

- work on innovative and demanding scientific project in theoretical neuroscience

Your qualifications:

- a MSc degree in biology or physics or related subjects, with grade ≥ 2.5
- interdisciplinary interest, analytical thinking, independent problem-solving
- basic programming skills in e.g. Matlab or Python; ideally, prior experience in theoretical neuroscience
- very good skills in English (both in speaking and writing)

We offer:

- an intriguing project (see below) in tight cooperation with theoretical scientists
- an interdisciplinary environment within a motivated and international team
- beyond that, integration in German research networks (SPP 2205, FOR 5424)

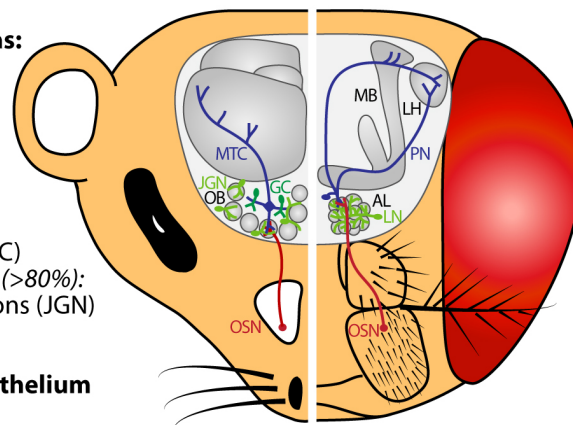
Higher olfactory areas:

Piriform Cortex
Amygdala
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Olfactory bulb:

~1000 glomeruli
Principal neurons:
Mitral/Tufted cells (MTC)
Inhibitory interneurons (>80%):
Juxtglomerular neurons (JGN)
Granule cells (GC)

OSNs in olfactory epithelium



Higher olfactory areas:

Mushroom body (MB)
Lateral Horn (LH)

Antennal lobe:

54 glomeruli
Principal neurons:
Projection neurons (PN)
Inhibitory interneurons (~70%):
Local Interneurons (LN)

OSNs in sensillae on antennae/ maxillary palp

The project is part of the priority program 2205 "[Evolutionary optimisation of neuronal circuits](#)" and of the Research Unit "[Modulation of olfaction](#)", both funded by the DFG (German Research Foundation). In close collaboration with the lab of Dr. Silke Sachse, MPI for chemical ecology Jena, and the theoretical group of Prof. Martin Nawrot, Cologne University, the convergent evolution of inhibitory circuits across the antennal lobe of insects and the olfactory bulb of vertebrates shall be elucidated, using network models that are closely tied to experimental neuroanatomical and functional data. Ultimately, we aim for a generalised network model and thereby a deeper understanding of olfactory processing as such.

Further inquiries, application documents: Veronica.Egger@ur.de