Seminars in Neuroscience

Dr. Stefanie Jahn

Philipps Universität Marburg

Center for Mind, Brain and Behavior

Neuronal composition of the central complex of the cockroach *Rhyparobia maderae* and anatomical organization of the mushroom body of *Papilio xuthus*

April 14, 2025 at 16:00

Biocenter, Zülpicher Str. 47b,
Lecture hall, Ground floor

Insects show a wide variety of strategies for navigation by comparing external and self-generated cues. We examined the neuronal composition of the central complex, the presumed insect brain navigation center, in the nocturnal cockroach *Rhyparobia maderae*. Besides major cell types also found in other species, several types of neurons had unique projections or had not been encountered in other species. Spatial and olfactory memory are also important for successful orientation. Based on synapsin and FMRFamide immunolabeling we elucidated the subdivisions of the mushroom bodies, a key center for memory formation and learning, in the butterfly *Papilio xuthus*, a species known for its complex visual behaviors and remarkable color discrimination capabilities. The detailed anatomical characterizations provide a basis for comparative morphological studies and offer new insights into the structural diversity across insecta.

Host: Prof. Dr. Kei Ito k.ito@uni-koeln.de