SFB 1315
Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

Tuesday

JUN 18, 2024
2:00 pm

BCCN Lecture Hall
Philippstraße 13/Haus 6
10115 Berlin
Meeting-ID: 775 491 0236
SFB1315.ifb@hu-berlin.de

SFB 1315 LECTURE SERIES, MID-YEAR MEETING 2024

DO NOT DISTURB: SLEEP IN FISH AND BEES

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Behavioral Neuroscience
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Magdeburg

Funded by
DFG Deutsche Forschungsgemeinschaft
German Research Foundation

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Humans and animals alike require sleep in order to function properly. A lack of sleep can result in a range of negative effects on the brain and body, including decreased cognitive performances. Over time, sleep deprivation can lead to serious health problems. Despite numerous studies, the exact mechanisms behind these effects remain largely unknown.

I utilize various model organisms in my research to understand the changes in behavior and the underlying neural alternations caused by sleep deprivation.

Honeybees offers a unique opportunity to study memory consolidation in a relatively simple brain. My research has shown that, like humans, bees reactivate learned information during sleep and thereby strengthen their memories. When this consolidation is disrupted, their memories become weakened.

Additionally, I take advantage of the zebrafish larva, a popular model for studying sleep. Our findings reveal that sleep deprivation increases reaction time in zebrafish, but surprisingly, also enhances their performance in decision making. The sleep deprived fish demonstrated improved decision-making abilities: They take longer to react to a visual stimulus, which likely allows them more time to integrate information before making a more informed decision.

These results provide new insight into the effects of sleep deprivation on memory and decision making and lay the foundation for a more complete understanding of the alterations that sleep deprivation leaves behind in the brain and the body.

About the Speaker

Hanna Zwaka is Research Group Leader of Behavioral Neuroscience at the Leibniz Institute for Neurobiology (LIN) in Magdeburg. She received her PhD at the FU Berlin on the topic of Behavioraland neural analysis of learning and memory in the honeybee *Apis mellifera*. Before joining LIN she was postdoc at Harvard University, working on a project related to sleep deprivation and innate behavioral changes in larval zebrafish.

This invited talk is hosted by SFB1315 early career researchers.

Certificate of attendance:
Please contact team assistant serenella.brinati.1(at)hu-berlin.de

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