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

Tuesday

FEB 11, 2025
4:00 pm

Meeting-ID: 775 491 0236
SFB1315.ifb@hu-berlin.de

SFB 1315 LECTURE SERIES 2025

NEURAL MECHANISMS FOR EMOTIONAL MEMORY PROCESSING DURING SLEEP

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Funded by
DFG Deutsche Forschungsgemeinschaft
German Research Foundation

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The gradual reinforcement of memories, called "consolidation", is a process occurring partially during sleep and mediated by various patterns of coordinated neural activity.

The formation of contextualized emotional memories involves a large network of structures, among which the hippocampus and the baso-lateral amygdala (BLA) are central. In the dorsal hippocampus, fast oscillations (sharp-wave ripples) during non-REM sleep mediate the consolidation of spatial memories through the reactivation of place cell activity. On the other hand, emotional information is processed primarily in the ventral hippocampus and amygdala, which are reciprocally connected.

Using large-scale electrophysiology in freely-moving rats, we investigate how the association of contextual and aversive information involves changes in neural synchronization at the level of local field potential and neuronal assemblies along the dorso-ventral hippocampus-BLA axis during sleep.

Further reading:

Girardeau G., Lopes-dos-Santos V.
Brain neural patterns and the memory function of sleep. *Science* 374,560-564(2021)
doi: 10.1126/science.abi8370

Pronier É, Morici JF, Girardeau G.
The role of the hippocampus in the consolidation of emotional memories during sleep.*Trends Neurosci* 46(11), 912-925(2023)
doi: 10.1016/j.tins.2023.08.003

This invited talk is hosted by SFB1315 Associate PI Silvia Viana da Silva.

Certificate of attendance:
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Funded by
DFG Deutsche Forschungsgemeinschaft
German Research Foundation