

Internal Webinar

Elucidating the relevance of sleep in memory consolidation using *Drosophila*

Aishwarya S

IISER, Thiruvananthapuram

Sleep is an evolutionarily conserved, quiescent state observed across the animal kingdom—from simple organisms like Hydra to humans. Despite its universal nature, the fundamental purpose of sleep remains elusive. Sleep is known to play a vital role in physiology, immunity, and particularly memory consolidation. However, the underlying genetic mechanisms governing sleep-dependent memory consolidation remain poorly understood. To address this gap, we conducted a forward genetic screen in *Drosophila melanogaster* to identify novel genetic regulators connecting sleep and memory. Our screen identified *tequila* as a key gene regulating sleep fragmentation in flies. Additionally, we investigated the behavioural effects of caffeine on sleep and memory, demonstrating that the duration of caffeine exposure is essential for its effect on sleep and memory. Together, our findings offer new insight into the behaviour and pharmacological regulation of sleep and memory.

Monday, Jul 27th 2026

14:30 Hrs

Seminar Hall, TIFRH