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# Neural mechanisms of memory consolidation during sleep

Gabrielle Girardeau\*<sup>1</sup>

<sup>1</sup>Institut du Fer à Moulin – Institut National de la Santé et de la Recherche Médicale, Sorbonne Université – France

## Abstract

The hippocampus and the amygdala are two structures required for emotional memory. While the hippocampus encodes the contextual part of the memory, the amygdala processes its emotional valence. During Non-REM sleep, the hippocampus displays high frequency oscillations called "ripples". Our early work shows that the suppression of ripples during sleep impairs performance on a spatial task, underlying their crucial role in memory consolidation. We more recently showed that the joint amygdala-hippocampus activity linked to aversive learning is reinstated during the following Non-REM sleep epochs, specifically during ripples. Hippocampal ripples during sleep thus emerge as a crucial time windows for intra-hippocampus and cross-structure reactivations sustaining the consolidation of spatial and emotional memories

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\*Speaker