

## Neuroscience Seminar Series

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**Friday, May 12<sup>th</sup>, 2017 at 11:30**

Salle des Conférences (R229)

Centre Universitaire des Saints-Pères

45 rue des Saints-Pères, 75006 Paris

# Jan Born

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*University Tübingen, Germany*

## *The Memory Function of Sleep*

*Whereas memories are encoded and retrieved optimally when the brain is awake, the consolidation of memory requires an offline mode of processing as established optimally only during sleep. Recent studies have elucidated some of the neurophysiological mechanisms underlying memory consolidation during sleep, especially in the hippocampus-dependent declarative memory system. This system is capable of rapidly forming an initial memory representation for an episode upon its one-time occurrence, and is thus at the basis of the formation of any long-term memory. Consolidation of hippocampus-dependent memories represents an active systems consolidation process that takes place mainly during slow wave sleep (SWS) rather than REM sleep. Memory reactivations originating from the hippocampus, are synchronized to the <1Hz EEG slow oscillations that dominate SWS and are generated in neocortical networks, partly as a function of the prior use of these networks for encoding of information. By synchronizing hippocampal memory reactivations with specific activity from other brain areas, including thalamo-cortical spindles, slow oscillations enable persisting plastic changes underlying the long-term storage of memories in the neocortex.*

Those interested in meeting with the speaker please contact  
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