



Monday, October 09, 2023, 3:00 pm
Stephanstrasse 1A
Wilhelm Wundt Room, 4th Floor, A400

Guest Lecture

Prof. Dr Magdalena Sauvage

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Towards a Functional Architecture of Memory

Remembering specific events of our past is crucial for present and future daily-life decisions. We aim at leveraging fundamental principles of memory by investigating its behavioral, network and cellular mechanisms. We especially focus on characterizing role of the Medial Temporal Lobe (MTL) areas of the brain within this framework, a region that suffers damage in aging and in patients suffering from amnesia or Alzheimer Disease. The originality of our approach consists in using in rodents behavioral experimental conditions comparable to these used in humans. We combined this approach to the light-induced modulation of cell activity (optogenetics), immediate-early gene based- molecular imaging or 9.4T fMRI in awake rats with the aim of bridging further research on human and animal memory. This allowed us to recently formulate new concepts describing an unexpected segregation of spatial and non-spatial information within the MTL region and a switch between MTL subnetworks for retrieving memories as they age. In my talk, I will present these findings and introduce our current projects using 9.4TfMRI-compatible cognitive tasks in awake rats.