MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2026-2027

(internship from January to June 2027)

Host laboratory: *Lyon Neuroscience Research Center, CNRS UMR 5292 - Inserm U1028 – UCBL, Centre Hospitalier Le Vinatier - Bâtiment 462 – Neurocampus, 95 boulevard Pinel, 69675 Bron Cedex, FRANCE*

Host team : *Forgetting and cortical dynamics; https://www.crnl.fr/en/equipe/forgetting*

Internship supervisors : *Regis Parmentier, CR, regis.parmentier@univ-lyon1.fr*

Project title : Histamine and adaptative forgetting

Project summary : *Histamine plays a crucial role as a neuromodulator in controlling wakefulness. Studies have indicated its selective involvement, particularly in attention, hinting at its function as a promnesiant neurotransmitter. Consequently, a pertinent inquiry arises regarding whether histamine's effect stems from bolstering memory formation or facilitating selective and adaptive forgetting. Over the past few years, we have employed various paradigms within a radial maze using rats to probe diverse memory types. Specifically, we have concentrated on reference memory (long-term memory) and two variants of working memory, each characterized by varying levels of interferences, aiming to elucidate the mechanisms underlying adaptive forgetting and ensuring accurate responses. The primary objective of this initial study is to demonstrate the capacity of histamine neurotransmission to enhance the efficiency of information processing. This is the first stage of a larger project on the mechanisms of mnemonic processing involving the histaminergic system, the hippocampus, and the cortex.*

3-5 recent publications :

Dynamics of evoked responses in hippocampal pathways are encoded by the dura□on of vigilance states. Marchal P, et al. Nat Commun. 2025 16(1):2973.
Synapse-Specific Modulation of Synaptic Responses by Brain States in Hippocampal Pathways. Rampon M, et al. J Neurosci. 2023, 43(7):1191-1210.
Working and Reference Memory Tasks Trigger Opposed Long-Term Synaptic Changes in the Rat Dentate Gyrus. Missaire M, et al. Cereb Cortex. 2021, 31(6):2980-2992.
Long-term effects of interference on short-term memory performance in the rat. Missaire M, et al. PLoS One. 2017,12(3):e0173834.
Levels of Interference in Long and Short-Term Memory Differentially Modulate Non-REM and REM Sleep. Fraize N, et al. Sleep. 2016,39(12):2173-2188.