MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2026-2027

(internship from January to June 2027)

Host laboratory:
Max Planck Institute of Psychiatry
Kraepelinstrasse 2-10
80804 Munich
Germany

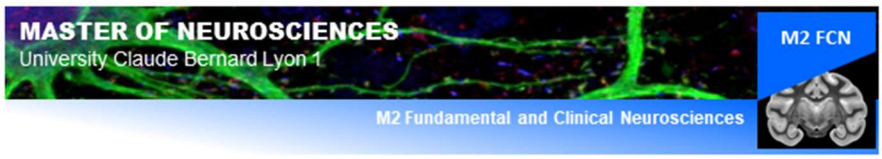
Host team :
Oriane Mauger's group
RNA basis of memory
https://www.psych.mpg.de/2884850/mauger

Internship supervisors :
Oriane Mauger
Group Leader
oriane_mauger@psych.mpg.de

Project title : Exploring the role of alternative splicing in memory formation

Project summary :

Memory is a major cognitive function that is affected by a wide range of conditions beyond neurodegenerative diseases. Mental disorders such as anxiety, depression and associated symptoms like insomnia, can significantly impact memory function. The goal of our research is to unravel the molecular basis of memory and bring new tracks for therapeutic strategies. In our recent work (unpublished), we discovered that RNA processing is crucial for memory consolidation. This breakthrough finding is particularly significant considering that RNA has emerged as a privileged target for therapeutic interventions in neurological disorders, placing RNA regulation at the forefront of translational research into memory deficits. To leverage this discovery and decipher RNA programs activated during memory consolidation, we use single molecule imaging approaches and -omics technologies. In addition, we are actively developing an array of new molecular tools to manipulate these RNA regulations with the ultimate goal of modulating memory performance and fighting memory deficits in mouse model of anxiety, depression and sleep deprivation.



3-5 recent publications :

Mauger, O.: Activity-dependent splicing: A game changer for proteome remodeling in the brain. Current Opinion in Neurobiology **95** 103110, (2025)

Mazille, M.; Buczak, K.; Scheiffele, P.; Mauger, O..: Stimulus-specific remodeling of the neuronal transcriptome through nuclear intron-retaining transcripts. The EMBO Journal **41** (21), e110192, (2022)

Mauger, O..; Scheiffele, P.: Beyond proteome diversity: alternative splicing as a regulator of neuronal transcript dynamics. Current Opinion in Neurobiology 45, pp. 162 - 168 (2017)

Mauger, O..; Lemoine, F.; Scheiffele, P.: Targeted Intron Retention and Excision for Rapid Gene Regulation in Response to Neuronal Activity. Neuron **92** (6), pp. 1266 - 1278 (2016)