MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2026-2027

(internship from January to June 2027)

Host laboratory: *Centre de Recherche en Neurosciences de Lyon - INSERM U1028 - CNRS UMR 5292 - UCBL – UJM*
95 Boulevard Pinel 69675 BRON CEDEX

Host team : *PATHPARK Pathophysiologie de la maladie de Parkinson et des troubles associés*
https://sites.google.com/view/pathpark/home

Internship supervisors : *Dr Stéphane PRANGE, Stephane.prange@chu-lyon.fr*

And Dr Elise METEREAU, elise.metereau@chu-lyon.fr

Project title : Park Social-E-Motion Social perception and dopaminergic modulation in patients with Parkinson's disease: a functional MRI study

Project summary : *Social cognition is a complex process that enables humans to interpret social information and behave appropriately in a social environment. Social cognition can be impaired in Parkinson's disease patients, worsening quality of life and relationships with those around them, even at an early stage. These alterations are manifested in particular by impairments of the recognition of facial emotions and body movements, involving the motor system. The aim of this study is to understand the brain mechanisms associated with impaired social perception in people with Parkinson's disease using functional MRI and a behavioural task for the perception of social interaction scenes depicted by "Point Light Display" (PLD).This study will investigate the effect of dopaminergic modulation on the networks associated with the perception of movement and mirror system, the observation of action (parietal cortex, superior temporal sulcus), and those associated with the mentalization of others' cognitive or emotional states (prefrontal cortex and limbic system).*

The M2 candidate will participate in all investigations for this study and be responsible for recruiting participants, acquiring MRI data and analysing brain activity (BOLD signal) related to social perception.

1) Differential effects of levodopa on social cognition in people with parkinson's disease. Danaila T, Métereau E, Klinger H, Jaulent A, Porte O, Tremblay L, Jaulent P, Laurencin C, Prange S, Thobois S. (2026) Journal of Parkinson's Disease, in press.
2) McMahon, E., & Isik, L. (2023). Seeing social interactions. Trends in cognitive sciences, 27(12), 1165–1179. https://doi.org/10.1016/j.tics.2023.09.001

3) Centelles, L., Assaiante, C., Nazarian, B., Anton, J. L., & Schmitz, C. (2011). Recruitment of both the mirror and the mentalizing networks when observing social interactions depicted by point-lights: a neuroimaging study. PloS one, 6(1), e15749. https://doi.org/10.1371/journal.pone.0015749