



## MASTER 2 Fundamental and Clinical Neurosciences

### Internship proposal 2024-2025

(internship from January to June 2025)

**Host laboratory:** *Name + address*

Lyon Neuroscience Research Center (CRNL)

Impact team, 16 avenue du Doyen Jean Lépine, 69500 Bron, France

**Host team:** *team name + website*

Impact team, 16 avenue du Doyen Jean Lépine, 69500 Bron, France

<https://www.crnl.fr/fr/equipe/impact>

**Internship supervisors:** *name + position + email*

Marine Vernet, Ph.D., Chargée de Recherche CNRS

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**Project title:**

How much should I feel in control in novel situations? EEG/MEG and behavioral studies

**Project summary:** *approx 10 lines*

The sense of agency is the consciousness of controlling our own volitional actions and their consequences in the world. It builds up on deciding, initiating and executing actions, observing their consequences and comparing them with our expectations. It can be disturbed in several neuropsychiatric disorders (Parkinson disease, schizophrenia, depression...). We hypothesize that these patients lack appropriate mechanisms of regulation of the sense of agency. The goal of our research is to understand, in healthy participants, how the sense of agency adapts to novel situations and what are the neural mechanisms underlying this adaptation. In this internship, we are going to explore these questions using a combination of techniques, mainly behavioral experiments designed as games, magnetoencephalography (MEG) or electroencephalography (EEG). Experience with Python (or willingness to learn) is recommended.

**3-5 recent publications:**

1. Toma M, Mattout J, Quentin R, Rassoulou F, Gautier A, Maby E, Vernet M (2023) Humans progressively feel agency over events triggered before their actions. *bioRxiv* 2023.12.01.569449. <https://doi.org/10.1101/2023.12.01.569449>
2. Kong G, Aberkane C, Desoche C, Farnè A, Vernet M (In Press) No evidence in favour of the existence of 'intentional' binding. *Journal of Experimental Psychology: Human Perception and Performance*. (accessible on *bioRxiv* 2023.02.06.526214) <https://doi.org/10.1101/2023.02.06.526214>
3. Kong G, Miller LE, Desoche C, Pavani F, Haggard P, Vernet M, Farnè A. (2024) Distance modulates urgency to act and action awareness. *PsyArXiv* <https://doi.org/10.31234/osf.io/temnf>
4. Vernet M, Quentin R, Japee S, Ungerleider LG. (2020) From visual awareness to consciousness without sensory input: the role of spontaneous brain activity. *Cogn Neuropsychol*, 37 (3-4), 216-219. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7335319/>