MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2025-2026

(internship from January to June 2026)

Host laboratory:
Institute of Cognitive Sciences Marc Jeannerod
67 Boulevard Pinel, 69500, BRON

Host team:
Neural and cognitive control of action

Internship supervisors:
Irene CRISTOFORI (MCU, ISCMJ, UCBL, icristofori@isc.cnrs.fr)
Jérôme Brunelin (DR, UCBL1, jerome.brunelin@ch-le-vinatier.fr)

Project title:
"Neural modulations of social pain in individuals with borderline personality disorder: an eeg study"

Project summary :
Social pain refers to the negative experience perceived when an individual has been excluded from a social context (Eisenberger et al., 2003). The importance of interacting with others is so crucial that perceiving social pain (of being excluded by others) is deeply rooted in our brain. For example, simply imagining that we are excluded evokes social pain and activates regions such as the anterior insula, anterior cingulate cortex, and prefrontal cortex, which are also associated with physical pain (Cristofori et al., 2013; 2015; Eisenberger et al., 2003), and damage to these regions reduces the perception of social pain (Cristofori et al., 2019). Although the neural networks associated with social pain are well-established, the neural and cognitive mechanisms that modulate them remain far from complete understanding. Patients with borderline disorder have social cognition deficits, and they are particularly attentive to signals of potential social exclusion (Gutz et al 2015). In this project, using EEG, we aim to understand if borderline patients present an altered social pain network (increased theta activity) when experiencing social pain (elicited via the Cyberball task) and increased social pain perception. The results could shed light on our understanding of social pain and the dysfunctional mechanisms in pathology. The project could open new avenues of intervention for reducing social pain/social pain sensitivity in individuals with borderline personality disorder.

3-5 recent publications:
Eisenberger, N. I., et al. Science 302, 290–292 (2003).
Cristofori, I. et al. Cereb Cortex 23, 2437–2447 (2013).
Cristofori, I. et al. Soc Neurosci 14, 663–675 (2019).
Cristofori, I., et al. Soc Cogn Affect Neuro 10, 1668–1676 (2015).
Gutz, et al. Abnorm Psychol. 124:421–431 (2015)