

## **MASTER 2 Fundamental and Clinical Neurosciences**

## Internship proposal 2023-2024

(internship from January to June 2024)

Host laboratory: Centre de recherche en Neurosciences de Lyon 95 bd Pinel CH le Vinatier Bâtiment 452 69675 Bron

Host team : COPHY (https://www.crnl.fr/en/equipe/cophy)

Internship supervisors : Christina Schmitz, CR CNRS, christina.schmitz@inserm.fr

**Project title :** Are there features in the Resting State Networks that predict performance in a motor learning task ? A developmental approach.

## Project summary : approx 10 lines

The « Resting State Networks » (RSN) correspond to networks which are active when a person is not engaged in a particular task. A few Magnetoencephalography (MEG) studies have shown that motor learning induces alterations of the functional connectivity between regions of these networks particularly implicated in the construction of sensorimotor representations. The aim of this project is to further characterize these changes and to determine whether pre-task activity in these regions predict participants' performances during the motor learning task. This project will entail the use of source localization and effective connectivity tools. Similar analyses will be applied on the data of children performing the same task and results will be compared between the two groups to inform us about changes occurring in these networks across ages while motor abilities have strongly improved.

## **3-5 recent publications :**

Di Rienzo F, Barlaam F, Daligault S, Delpuech C, Roy AC, Bertrand O, Jerbi K, Schmitz C. Tracking the acquisition of anticipatory postural adjustments during a bimanual loadlifting task: A MEG study. Hum Brain Mapp. 2019 Jul;40(10):2955-2966

Barlaam F, Fortin C, Vaugoyeau M, Schmitz C, Assaiante C. Mu-oscillation changes related to the development of anticipatory postural control in children and adolescents. J Neurophysiol. 2018 Jul 1;120(1):129-138

Barlaam, F., Vaugoyeau, M., Fortin, C., Assaiante, C., & Schmitz, C. (2016). Shift of the Muscular Inhibition Latency during On-Line Acquisition of Anticipatory Postural adjustments. Plos One, 11(5), e0154775.

Please send your proposal to <u>marion.richard@univ-lyon1.fr</u> for publication on the Master of Neuroscience website.