

M2 FCN

M2 Fundamental and Clinical Neurosciences

### MA

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

# Internship proposal 2023-2024

(internship from January to June 2024)

Host laboratory: *ISC-MJ* Institute of Cognitive Sciences Marc Jeannerod, CNRS UMR 5229 67 Boulevard Pinel 69675 Bron Cedex

#### Host team : DISORDERS OF THE BRAIN http://www.isc.cnrs.fr/index.rvt?teamid=6&team=members

#### Internship supervisors :

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#### Project title : Action prediction during development and pathology

**Project summary :** Understanding others' actions is the key to adjusting our behavior and building social relationships. There are few studies establishing at what age children are able to predict others' actions, however, it is still unclear to which extent this prediction is related to their cognitive and motor development, and to which extent a lesion during development can impact this ability. Here, we aim at testing healthy babies (starting from 6 months) and children undergoing surgical resection due to tumor in the parietal cortex and cerebellum, two key regions for action prediction in adults. We will couple eye tracking technology with lesion mapping and language and motricity scales to understand when action prediction takes place during development (study 1) and how parietal and cerebellar lesions impact this ability (study 2).

#### References

Blakemore S, Sirigu A. Action prediction in the cerebellum and in the parietal lobe. Review Exp Brain Res. 2003 Nov;153(2):239-45. doi: 10.1007/s00221-003-1597

Kilner J, Vargas C, Duval S, Blakemore S, & Sirigu A. Motor activation prior to observation of a predicted movement. Nat Neurosci 2004 volume 7, pages1299–1301.

Sirigu, A., Daprati, E., Ciancia, S. et al. Altered awareness of voluntary action after damage to the parietal cortex. Nat Neurosci 2004 7, 80–84. https://doi.org/10.1038/nn1160

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