



MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2024-2025

(internship from January to June 2025)

Host laboratory: *Name + address*

CRNL

CH Le Vinatier - Bâtiment 462 - Neurocampus, 95 Boulevard Pinel, 69500 Bron

Host team : *team name + website*

CAP - website: <https://www.crnl.fr/fr/equipe/cap>

Internship supervisors : *name + position + email*

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Maître de Conférences

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Project title :

Determinants underlying multisensory vs unisensory perception: psychophysical and eye-tracking approaches in human

Project summary : *approx 10 lines*

Perception emerges by integrating information from different senses: visual, auditory, tactile, vestibular etc. This led to an unified and coherent representation of the environment where coordinated actions can take place.

The goal of the Internship is to study multisensory interactions in humans with non-invasive psychophysical tools (*i.e.* performance measurement and eye-tracking). Determinants underlying multisensory integration vs sensory-specific perception will specifically be assessed.

CAP team in CRNL is a great place to study multisensory interactions with extended facilities and expertise in perception and cognition (sound-attenuated rooms; multisensory stimulation device, eye-trackers, etc).

3-5 recent publications :

- Lefort, Quinton, Avillac, and Techer. Active multisensory perception and learning for interactive robots. In: computational models for crossmodal learning workshop. IEEE ICDL. Epirob. (2017)
- Avillac, Ben Hamed and Duhamel. Multisensory integration in the ventral intraparietal area (VIP) of the macaque monkey. *Journal of Neuroscience*. (2007)
- Avillac, Deneve, Olivier, Pouget and Duhamel J.-R. Reference frames for representing the location of visual and tactile stimuli in the macaque ventral intraparietal cortex. *Nature Neuroscience* (2005)