

MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2025-2026

(internship from January to June 2026)

Host laboratory: CRNL - CH Le Vinatier - Bâtiment 462 - Neurocampus, 95 Bd Pinel, 69500 Bron

Host team: PSYR2 <https://www.psy2team.com/>

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Project title: Sensory hallucinations of schizophrenia: a cognitive and neural investigation

Project summary: Sensory hallucinations are vivid perceptual experiences that occur without external stimuli and are not under voluntary control. They can affect all sensory modalities—including auditory, visual, olfactory, gustatory, and somatosensory—and are particularly prevalent in schizophrenia, where they affect up to 80% of patients. Despite their clinical significance, the mechanisms underlying these phenomena remain poorly understood.

This M2 project aims to investigate the cognitive and neural mechanisms of sensory hallucinations in schizophrenia. At the cognitive level, we will investigate the relationship between hallucinations and *reality monitoring*—the ability to distinguish self-generated experiences, such as imagination, from those originating in the external world. At the neural level, the structural and functional brain correlates of hallucinations will be explored using magnetic resonance imaging (MRI).

3-5 recent publications:

Lavallé L, Brunelin J, Jardri R, Haesebaert F, Mondino M. The neural signature of reality-monitoring: A meta-analysis of functional neuroimaging studies. *Human Brain Mapping* 2023; 44(11):4372-4389.

Perret M, Lavallé L, Haesebaert F, Suaud-Chagny MF, Brunelin J, Mondino M. Neuroanatomical correlates of reality-monitoring in patients with schizophrenia and auditory hallucinations. *European Psychiatry* 2021; 64(1):e58

Perret M, Neige C, Brunelin J, Mondino M. Unraveling the brain mechanisms of source monitoring with non-invasive brain stimulation: A systematic review. *Int J Clin Health Psychol.* 2024; 24(2):100449.