Title: Electrophysiological interplay between perceptual and self-consciousness.

Bio: Following medical studies, **Nathan Faivre** obtained a Ph.D. at the Ecole Normale Supérieure in Paris, and worked as a postdoc at the California Institute of Technology and the Swiss Federal Institute of Technology. After two years at the Centre d'Economie de la Sorbonne in Paris, he is now a CNRS research director at the Laboratoire de Psychologie & Neurocognition in Grenoble. Between 2019 and 2024, his research was dedicated to metAction, an ERC-funded project which aims to document the contribution of sensorimotor signals to metacognition, and develop new remediation procedures. He is now focusing on a new ERC-funded project named volta, aiming at identifying electrophysiological and electrochemical correlates of perceptual consciousness in awake, asleep, and anesthetized individuals with epilepsy implanted with micro-electrodes.

Abstract : Perceptual experience is a multi-faceted, dynamical process encompassing both perceptual and self consciousness. Simple forms of perceptual experience can be tackled empirically through measures of stimulus detectability and confidence ratings. In this talk, I will argue that stimulus detection and confidence can be explained by evidence accumulation, a form of sequential sampling of sensory evidence performed by the brain. I will present recent invasive electrophysiological recordings in which human volunteers performed detection and discrimination tasks followed by confidence ratings. I will discuss the results in light of a computational model of evidence accumulation explaining key aspects of perceptual experience. I will end the talk by discussing future projects aiming to combine electrophysiological and electrochemical correlates of perceptual experience.