Internship Title : Auditory processing in the sleeping infant brain

Supervisor : Claire Kabdebon

Email : Claire.kabdebon@cnrs.fr

Hosting lab : Centre de Recherche en Psychologie et Neurosciences, Equipe Dévelopement et Phylogénie

Internship description : Sleep is an essential biological process, critically involved in learning, especially in infancy. Throughout development, brain activity during sleep undergoes important changes before reaching its mature organization. In particular, it is initially characterized by two different stages: quiet and active sleep. While we know that sensory processing is disrupted during sleep, we still lack a quantitative description of how it reduces sensory responses in these two different sleep stages. The goal of this project is to investigate the impact of different sleep stages on infant auditory processing using EEG. The internship will consist in:
- Literature review on the early development of sleep
- Analyses an EEG dataset recorded from infants presented with speech sounds during their sleep
- Automated identification and characterization of sleep spindles
- Report writing

For any further question or discussion, please reach out (claire.kabdebon@cnrs.fr).

Internship location : CRPN, Marseille

Internship duration: Second semester of 2025/26

Required skills and profile : Background in cognitive or neuroscience, and a strong interest for developmental science and/or sleep science. Strong analytical and programming skills (Matlab, Python, R) are essential.

Keywords : infants, sleep, EEG, speech, development