

Offre de financement de thèse
Fully funded PhD studentship



ODORINFACE

Odors shape the early development of face perception EEG signatures in the infant brain

Project & Job description: Making sense of others' faces is a challenging task for the immature infant visual system that requires experience to develop. By contrast, olfaction is an early functional sensory modality conveying relevant social information to infants. In this regard, the ODORINFACE project investigates whether and how experience brought by odor cues during early social interactions is influential on the developmental shaping of face perception. Based on a seminal study showing that maternal odor enhances a face-selective neural response in 4-month-old infants (Leleu et al., 2020, *Dev. Sci.*), the project will delineate the mechanisms underlying the odor-driven tuning of face perception in the infant brain using scalp electroencephalography (EEG) and a frequency-tagging approach.

The recruited candidate will participate in determining (1) which specific odor cues help perceive faces, (2) how differential early olfactory experience (across infants) contributes to the odor effect, and (3) whether this effect evolves during the first postnatal year with the progressive maturation of the face perception system. ODORINFACE represents an innovative project on the early development of (multi)sensory perception involving a generally neglected sensory modality (i.e., olfaction) that recently received growing attention. The recruited PhD student will therefore contribute to an emerging field of research in cognitive psychology and neuroscience.

Host laboratory: The recruited candidate will integrate the lab "Éthologie Développementale et Psychologie Cognitive" (DECOP) of the "Centre des Sciences du Goût et de l'Alimentation" (CSGA), a multidisciplinary research center funded by the University Bourgogne Franche-Comté, CNRS, Inrae, and AgroSup Dijon. DECOP involves 9 researchers and engineers/technicians, and currently 5 PhD students and 3 postdoctoral researchers. The group addresses the functional aspects of olfaction, their ontogenetic determinants and their impact on the other senses in the early development of cognition and behavior in humans and other mammals.

The recruited PhD student will have access to secured equipment and facilities. In particular, (s)he will have access to dedicated babylabs (for newborns and infants over 2 months of age) where all facilities for EEG and behavioral testing, simultaneously with olfactory and visual stimulations, are available on a daily basis.

The PhD student will be supervised by Dr. Benoist Schaal (Directeur de Recherche CNRS, head of DECOP) and Dr. Arnaud Leleu (Maître de Conférences, Principal Investigator of the project). The studentship is fully funded (net salary ≈ 1400 €) for 36 months (starting date: 1st October 2020).

Candidate: Applicants will have a Master degree in Psychology and/or Neuroscience with an excellent academic track record. Previous research on neurocognitive development and/or a strong motivation to work with infants will be a plus. Prior experience with EEG acquisition and analysis will be greatly appreciated. Candidates will be fluent in both English (for scientific communication) and French (to communicate with French-speaking parents).

Application: Please send a Curriculum Vitae (with grades), a motivation letter (in English), and two recommendation letters (in English or French) to arnaud.leleu@u-bourgogne.fr

Contact: For further information, please contact arnaud.leleu@u-bourgogne.fr

Deadline: 31 May 2020