

A post-doc position on the development of rhythm perception before the age of term and the impact of NICU musical interventions

We are looking for a 3-year post-doc researcher at **Groupe de Recherches sur l'Analyse Multimodale de la Fonction Cérébrale in Amiens, France**, funded by the **French National Research Agency** and the **Fondation pour l'Audition**.

The deadline for applications is May 31st, 2023. Applications will be evaluated as they come in, and the positions will be open until filled.

About the project: We aim to evaluate the development of rhythm perception starting from the third trimester of gestation into infancy, and the impact of early musical interventions in the NICU on preterm infants' development. In this cross-sectional and longitudinal study, we will evaluate the development of auditory rhythm processing capacities with EEG, and behavioral protocols.

About the consortium: the project consortium is led by Sahar Moghimi (Université de Picardie, Amiens, France), involves three other academic partners, Barbara Tillmann (Université de Bourgogne, Dijon, France), Laurel Trainor (McMaster University, Hamilton, Canada), and Florence Levé (Université de Picardie, Amiens, France), and post-doc researchers and PhD students with complementary expertise in early neurodevelopment, cognitive neurosciences of music, neural data processing, and music analysis.

The aim is to put together a cross-disciplinary team that together covers protocol design and implementation, EEG signal processing, behavioral studies, video analysis, statistics, and machine learning.

GRAMFC (Inserm U1105) is an international leader in neonatal care and specifically in pediatric/neonatal Clinical Neurophysiology, HR EEG and HD NIRS (and soon fetal MEG) engineering in premature neonates. Inserm U1105 is a multidisciplinary group and has brought together a team of neuropsychologists, intensive-care pediatricians, obstetricians, pediatric neurologists, and specialists in signal processing. The lab has developed new tools for signal acquisition and analysis of the cerebral function in children, neonates, and preterm infants. The UMR 1105 also has a unique position because of support from the university and from the hospital Pediatric Nervous System Functional Investigations unit.

Qualifications:

The post-doc/PhD will be fully dedicated to extracting the EEG correlates of rhythm processing in the course of development, aiming to extract the neural response to different rhythmic characteristics, and to evaluate the impact of musical interventions on neurodevelopment.

Required: PhD in neuroscience, biomedical engineering, computer science, or related fields, strong background in neural signal processing, advanced skills with scripting languages, such as Matlab or Python, research experience in EEG signal processing/modeling, high verbal and written communication skills

Preferable: knowledge in the field of neurosciences of music and/or auditory perception, French fluency

How to apply:

All applications should include a CV, a cover letter specifying research interests and motivation, and contact details for two referees.

Applications should be sent to Sahar Moghimi, sahar.moghimi@u-picardie.fr.