

## PhD position in Neurodevelopment and Rhythm September 2024

We are looking for a PhD candidate at Groupe de Recherches sur l'Analyse Multimodale de la Fonction Cérébrale (GRAMFC) in Amiens, France.

The deadline for applications is **May 31st, 2024**. Applications will be evaluated as they come in, and the position will be open until filled.

**About the project:** We aim to evaluate the impact of music exposure during fetal life on the development of rhythm perception, tested at birth. This study includes musical interventions in pregnant women, with EEG recordings to be carried out at birth at the Amiens University Hospital.

The PhD will be realized in co-direction between Arthur Foulon (MD-PhD, MCU-PH) and Sahar Moghimi (PhD, PU).

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. The laboratory has brought together a team of neuroscientists, engineers, neuropsychologists, intensive-care pediatricians, obstetricians, and pediatric neurologists. The lab has developed new tools for signal acquisition and analysis of the cerebral function in children, neonates, and preterm infants.

The team led by Sahar Moghimi at GRAMFC is concentrated on the early development of rhythm perception with PhD students and post-doctoral researchers working on the project and multiple financial supports and collaborations.

### Qualifications:

The PhD will be fully dedicated to extracting the EEG correlates of rhythm processing in newborns, aiming to extract the neural response to different rhythmic characteristics, and to evaluate the impact of musical interventions on neurodevelopment. The PhD candidate should be comfortable in conducting EEG recordings in the neonatology unit (training will be carried out at the beginning).

**Required:** MSc (or equivalent) in neuroscience, biomedical engineering, computer science, or related fields; very 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; French fluency

**Preferable:** knowledge in the field of neurosciences of music and/or auditory perception

**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](mailto:sahar.moghimi@u-picardie.fr).