



Offre n°2025-08819

Post-Doctoral Research Visit F/M Neural correlates of social interaction and its impact on performance in middle childhood

Type de contrat : Fixed-term contract

Contrat renouvelable : Oui

Niveau de diplôme exigé : Graduate degree or equivalent

Fonction : Post-Doctoral Research Visit

Contexte et atouts du poste

Social interaction among children is crucial for the proper development of social and cognitive skills, as well as for proper brain development. However, the topic of how children acquire the ability to form social bonds with their peers remains understudied and therefore poorly understood. One possibility for exploring this question is to simultaneously measure the brain activity of two children during social interaction, a technique that is called hyperscanning. The inter-brain synchrony data elicited in this way can then be related to data on children's embodied interaction with one another, data on the strength of their social bonds, and data on their performance on a collaborative task. Analyzing and interpreting the results of these experiments,,using newer machine learning approaches, will be the job of the research engineers and postdocs hired for this position.

Mission confiée

The Post-Doc chosen for this project should have a broad range of analytic skills including at least several of the following:

Developing experimental methodologies that allow the rigorous collection of hyperscanning data.

Managing hyperscanning experiments, including the use of PsychoPy software to develop triggers to allow alignment of the different kinds of data (language, nonverbal behavior, inter-brain synchrony).

Knowledge of hyperscanning technologies, particularly functional Near-Infrared Spectroscopy (fNIRS). Familiarity with the NIRx system is a plus.

Analysis of hyperscanning neuroimaging data, using advanced statistics and machine learning methodologies for temporally-sensitive data, such as GLMM, Random Forests, LSTM, etc..

Experience in programming in Python and use of relevant architectures, software, and libraries, such as HyPyP.

The successful candidate will work in a multi-disciplinary team to conduct hyperscanning experiments with adults and children, and will be responsible for analyzing the resultant data, and for collaborating to write-up and publish the results.

Principales activités

- Design scientific tasks
- Carry out experiments
- Analyze their results
- Apply results to understanding of social cognition in middle childhood
- Participate in writing-up and publishing results

Compétences

Technical skills and level required: Solid knowledge of hyperscanning, background in neuroimaging techniques (e.g. fNIRS, EEG), and competence in programming in Python, with machine learning experience. Experience with NIRx Aurora and Hyperscan software is a plus.

Languages: French, English

Relationship skills:

- Ability to work in a team, and collaborate with others from different disciplines and backgrounds.

- Ability to work independently.
- Ability to manage other team members.
- Theoretical background in one or several of the following fields is required: cognitive science, linguistics, sociolinguistics, psychology, computer science, computational neuroscience.

Avantages

- Subsidized meals
- Partial reimbursement of public transport costs
- Leave: 7 weeks of annual leave + 10 extra days off due to RTT (statutory reduction in working hours) + possibility of exceptional leave (sick children, moving home, etc.)
- Possibility of teleworking and flexible organization of working hours
- Professional equipment available (videoconferencing, loan of computer equipment, etc.)
- Social, cultural and sports events and activities
- Access to vocational training
- Social security coverage

Informations générales

- **Thème/Domaine** : Data production, processing, analysis (BAP C)
- **Ville** : Paris
- **Centre Inria** : [Centre Inria de Paris](#)
- **Date de prise de fonction souhaitée** : 2025-07-01
- **Durée de contrat** : 12 months
- **Date limite pour postuler** : 2025-06-30

Contacts

- **Équipe Inria** : [ALMANACH](#)
- **Recruteur** :
Etling Sophie / sophie.etling@inria.fr

A propos d'Inria

Inria est l'institut national de recherche dédié aux sciences et technologies du numérique. Il emploie 2600 personnes. Ses 215 équipes-projets agiles, en général communes avec des partenaires académiques, impliquent plus de 3900 scientifiques pour relever les défis du numérique, souvent à l'interface d'autres disciplines. L'institut fait appel à de nombreux talents dans plus d'une quarantaine de métiers différents. 900 personnels d'appui à la recherche et à l'innovation contribuent à faire

émerger et grandir des projets scientifiques ou entrepreneuriaux qui impactent le monde. Inria travaille avec de nombreuses entreprises et a accompagné la création de plus de 200 start-up. L'institut s'efforce ainsi de répondre aux enjeux de la transformation numérique de la science, de la société et de l'économie.

L'essentiel pour réussir

The successful candidate will: be able to collaborate successfully with interdisciplinary and international research teams, who are both co-present and at a distance. be able and ready to manage younger scholars and team members, such as masters and L2 students. be capable of working both independently and in tight collaboration with others. Possess a positive outlook and resilience in the face of inevitable research obstacles. wish to learn and listen. Experience in collecting and analyzing data using a variety of analytic methods is a real asset, as is a multidisciplinary background, involving both cognitive science and AI methods. The successful candidate should have a strong grasp of English and/or French, and be willing to work on learning the second language if not already mastered.

Attention: Les candidatures doivent être déposées en ligne sur le site Inria. Le traitement des candidatures adressées par d'autres canaux n'est pas garanti.

Consignes pour postuler

Sécurité défense :

Ce poste est susceptible d'être affecté dans une zone à régime restrictif (ZRR), telle que définie dans le décret n°2011-1425 relatif à la protection du potentiel scientifique et technique de la nation (PPST). L'autorisation d'accès à une zone est délivrée par le chef d'établissement, après avis ministériel favorable, tel que défini dans l'arrêté du 03 juillet 2012, relatif à la PPST. Un avis ministériel défavorable pour un poste affecté dans une ZRR aurait pour conséquence l'annulation du recrutement.

Politique de recrutement :

Dans le cadre de sa politique diversité, tous les postes Inria sont accessibles aux personnes en situation de handicap.