Offer #2025-08778

Post-Doctoral Research Visit F/M Higher-order interactions in the brain

Contract type : Fixed-term contract

Level of qualifications required : PhD or equivalent

Fonction : Post-Doctoral Research Visit

Assignment

The project aims to develop a mathematical framework to construct higher-order networks from node dynamics, model the resulting group interactions, and experimentally validate it on neuronal recordings collected at multiple spatial and temporal scales. The expected results would fill in the gap between higher-order effects and the underlying neural mechanisms, with broad implications ranging from biologically-inspired artificial intelligence to clinical applications.

Main activities

The research will be supervised by Prof. Fabrizio De Vico Fallani (Inria Paris) and Prof. Vito Latora (Queen Mary University London) based on their established collaborations on subjects spanning both theoretical and applicative aspects of network neuroscience. The main location will be the Paris Brain Institute (Inria-ICM) with regular visiting periods at Queen Mary University London.

Skills

We seek highly motivated individuals willing to explore the complexity of biological systems from a network viewpoint. The ideal candidate will have a PhD in physics, mathematics, computer science, statistics, or engineering-related

disciplines. Familiarity with biological applications, network science and neuroscience/imaging are welcome.

Benefits package

- 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

General Information

- **Theme/Domain :** Computational Neuroscience and Medicine
  Biologie et santé, Sciences de la vie et de la terre (BAP A)
- **Town/city :** Paris
- **Inria Center :** Centre Inria de Paris
- **Starting date :** 2025-06-02
- **Duration of contract :** 2 years
- **Deadline to apply :** 2025-04-30

Contacts

- **Inria Team :** NERV
- **Recruiter :**
  De Vico Fallani Fabrizio / fabrizio.de-vico-fallani@inria.fr

About Inria

Inria is the French national research institute dedicated to digital science and technology. It employs 2,600 people. Its 200 agile project teams, generally run jointly with academic partners, include more than 3,500 scientists and engineers working to meet the challenges of digital technology, often at the interface with other disciplines. The Institute also employs numerous talents in over forty different professions. 900 research support staff contribute to the preparation and development of scientific and entrepreneurial projects that have a worldwide impact.

Warning : you must enter your e-mail address in order to save your application to Inria. Applications must be submitted online on the Inria website. Processing of applications sent from other channels is not guaranteed.

Instruction to apply

Defence Security :
This position is likely to be situated in a restricted area (ZRR), as defined in Decree No. 2011-1425 relating to the protection of national scientific and technical potential (PPST).Authorisation to enter an area is granted by the director of the unit, following a favourable Ministerial decision, as defined in the decree of 3 July 2012 relating to the PPST. An unfavourable Ministerial decision in respect of a position situated in a ZRR would result in the cancellation of the appointment.

Recruitment Policy :
As part of its diversity policy, all Inria positions are accessible to people with disabilities.