Job vacancy #2023-06576

Post-Doctoral Research Visit F/M Postdoc
"Investigation of potential biomarkers to detect chronic inflammation in Multiple Sclerosis through diffusion MRI"

Contract type: Fixed-term contract
Level of qualifications required: PhD or equivalent
Fonction: Post-Doctoral Research Visit
Level of experience: Recently graduated

About the research centre or Inria department

The Inria Saclay-Île-de-France Research Centre was established in 2008. It has developed as part of the Saclay site in partnership with Paris-Saclay University and with the Institut Polytechnique de Paris.

The centre has 39 project teams, 27 of which operate jointly with Paris-Saclay University and the Institut Polytechnique de Paris, its activities occupy over 600 people, scientists and research and innovation support staff, including 44 different nationalities.

Context

This is a collaborative research project involving 2 partners.

Jing-Rebecca Li, Researcher (Applied Mathematics); Inria-Saclay, Équipe Idefix (Medical Imaging, Applied Mathematics); ENSTA Paris, Unité de Mathématiques Appliquées (UMA). Institut Polytechnique de Paris.

Anne Kerbrat, Medical Doctor (Neurologist) and Emmanuel Caruyer, Researcher (Medical Imaging); CHU de Rennes, Service de neurologie; Équipe Empenn, Univ Rennes, CNRS, Inria, Inserm, IRISA UMR 6074.

The postdoc will be based at Inria-Saclay, with regular visits to Rennes.

Assignment

Participation in the "Investigation of potential biomarkers to detect chronic inflammation in Multiple Sclerosis through diffusion MRI", a project funded within the Biomedical Engineering Seed Grant Program by the Fondation Bettencourt Schueller.

Main activities

Construction of a large data set of human brain cells simulation meshes.
Construction of a database of synthetic voxels and their diffusion MRI signals.
Design and optimization of new diffusion MRI sequences for microglia activation measurement.
Participation in image acquisition.
Image and data analysis.
Writing and submission of scientific articles. Publication of software and code for the numerical simulations on GitHub. Publication of the synthetic data sets.

Skills

Recent PhD in Applied Mathematics or Biomedical Engineering;
Programming skills in Matlab and Python;
Familiarity with diffusion MRI and image analysis;
Knowledge of partial differential equations and numerical linear algebra;

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 (after 6 months of employment) 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

Remuneration

Monthly gross salary: 2,788 euros

General Information

- Theme/Domain: Numerical schemes and simulations
  - Biologie et santé, Sciences de la vie et de la terre (BAP A)
- Town/city: Palaiseau
- Inria Center: Centre Inria de Saclay
- Starting date: 2023-10-01
- Duration of contract: 2 years
- Deadline to apply: 2023-12-31

Contacts

- Inria Team: IDEFIX
- Recruiter: Li-schlittgen Jing-rebecca / jing-rebecca.li@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.

The keys to success

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.