Offer #2024-07761

Software Engineer "Investigation of potential biomarkers to detect chronic inflammation in Multiple Sclerosis through diffusion MRI"

Contract type : Fixed-term contract

Level of qualifications required : Bachelor's degree or equivalent

Other valued qualifications : Bachelor or a Master's degree in Applied Mathematics or Medical Imaging

Fonction : Temporary scientific engineer

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 (Applied Mathematics, Medical Imaging); 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 engineer 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

Generating and managing datasets containing brain cells geometry meshes and synthetic diffusion MRI signals.

Participating in design and optimization of new diffusion MRI sequences for microglia activation measurement.

Participating in image and data analysis.

Participating in writing and submission of scientific articles.

Participating in publication of software and data sets on GitHub.

Skills

Bachelor or Master Degree in Applied Mathematics or Medical Imaging;

Class or project work on partial differential equations and numerical linear algebra;

Programming in Matlab and Python;

Knowledge of medical imaging, MRI;

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** : 2024-09-02
- **Duration of contract** : 12 months
- **Deadline to apply** : 2024-09-30

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

There is an interdisplinary project, so a background and interest in both numerical mathematics and medical imaging would be ideal.

> **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.