2023-05968 - Engineer in scientific computing / software development

Contract type: Fixed-term contract
Level of qualifications required: Graduate degree or equivalent
Level of experience: Recently graduated

About the research centre or Inria department

The Inria Saclay-Ile-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

As part of the research activities of the MUSCA project-team, specialized in the multiscale modeling of physiological systems, the objective is to update, test and distribute to non-specialist users a simulation environment for models formulated as advection-(diffusion)-reaction partial differential equations with nonlocal terms. The starting point will be the numerical schemes and codes developed for a mathematical model applied to reproductive biology and developmental biology (SIAM J. Appl. Math. 2016, https://doi.org/10.1137/15M1030327). The numerical scheme is based on the finite volume method, with rise in order (limiters), adapted to discontinuities in the speed and unknowns (SIAM J. Sci. Comput. 2013, https://doi.org/10.1137/12090423), and adaptive mesh (ESAIM Math. Model. Numer. Anal. 2014, https://doi.org/10.1051/m2an/2014014).

Assignment

Contribution to the promotion and development of software within the MUSCA project-team

Main activities

- Develop programs/applications/simulation interfaces
- Write documentation
- Write the reports
- Test, modify until validated
- Scientific / technological watch

Skills

Applied mathematics, especially partial differential equations
Scientific computing
C++ and python programming languages

Benefits package

- Canteen and cafeteria;
- Sports equipment;
- Transport reimbursement

Remuneration

Regarding professional experience.

General Information

- Theme/Domain: Modeling and Control for Life Sciences
- Scientific computing (BAP E)
- Town/city: Palaiseau
- Inria Center: Centre Inria de Saclay
- Starting date: 2023-10-01
- Duration of contract: 2 years
- Deadline to apply: 2023-09-04

Contacts

- Inria Team: MUSCA
- Recruiter: Clément Frédérique / Frederique.Clement@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

We're looking for a candidate with a taste for working in an interdisciplinary context and who can demonstrate autonomy.

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

Please attach a cover letter to your application.

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.