2018-00419 - [POST-DOC2018-MCTAO] Geometric optimal control with various applications

Level of qualifications required: PhD or equivalent
Function: Post-Doctoral Research Visit

About the research centre or Inria department

The Inria Sophia Antipolis - Méditerranée center counts 37 research teams and 9 support departments. The center's staff (about 600 people including 400 Inria employees) is composed of scientists of different nationalities (250 foreigners of 50 nationalities), engineers, technicians and administrators. 1/3 of the staff are civil servants, the others are contractual. The majority of the research teams at the center are located in Sophia Antipolis and Nice in the Alpes-Maritimes. Six teams are based in Montpellier and a team is hosted by the computer science department of the University of Bologna in Italy. The Center is a member of the University and Institution Community (ComUE) “Université Côte d'Azur (UCA)”.

Assignment
see below

Main activities

Subject

The aim of the proposal is to develop geometric optimal control methods based on applied optimal control problem coming from the applications and which are the core of the activities of the team. They concern computations of invariants and normal forms in optimal control and singularities analysis. Applications concern the problem of Micro-swimmers (in relation with Sub-riemannian geometry), Magnetic resonance imaging and Space applications in the controlled two body (Kepler) perturbed problem. The methods will be implemented using symbolic software.

Prerequisite: a solid formation in (geometric) optimal control.

Please contact Jean-Baptiste.Pomet@inria.fr or another researcher in the team (see web site https://team.inria.fr/mctao/).

Skills

Technical skills and level required:

Languages:

Relational skills:

Other valued appreciated:

Benefits package

- Subsidized catering service
- Partially-reimbursed public transport
- Social security
- Paid leave
- Flexible working hours
- Sports facilities

Remuneration

Gross Salary: 2650 brutto per month

General Information

- Theme/Domain: Optimization and control of dynamic systems
  Scientific computing (BAP E)
- Town/city: Dijon or Sophia Antipolis
- Inria Center: CRI Sophia Antipolis - Méditerranée
- Starting date: 10/1/18
- Duration of contract: 1 year, 4 months
- Deadline to apply: 3/25/18

Contacts

- Inria Team: MCTAO
- Recruiter: Pomet Jean-baptiste / jean-baptiste.pomet@inria.fr

Conditions for application

Application file: Applications must be submitted online on the Inria website. Collecting applications by other channels is not guaranteed.

Before to apply, and preferably before March 20, it is strongly recommended to contact the scientific in charge of this offer.

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.

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.