2018-00330 - Control of complementarity hybrid dynamical systems - Post-Doctorants Inria Grenoble Research

Contract type: Public service fixed-term contract
Level of qualifications required: PhD or equivalent
Function: Post-Doctoral Research Visit

About the research centre or Inria department
Grenoble Rhône-Alpes Research Center groups together a few less than 800 people in 35 research teams and 9 research support departments.

Staff is localized on 5 campuses in Grenoble and Lyon, in close collaboration with labs, research and higher education institutions in Grenoble and Lyon, but also with the economic players in these areas.

Present in the fields of software, high-performance computing, Internet of things, image and data, but also simulation in oceanography and biology, it participates at the best level of international scientific achievements and collaborations in both Europe and the rest of the world.

Assignment
This post-doc position subject is about Linear Complementarity Systems (LCS) analysis, which make an important class of hybrid dynamical systems with applications in circuits with piece-wise linear components, optimal control with state inequality constraints, genetic networks, etc.

In particular the design of time-varying stabilizing controllers, both by state and output feedback (keeping in mind that LCS are strongly nonlinear and nonsmooth dynamical systems, for which the separation principle does not automatically apply), will be tackled. Theoretical results will be supported by numerical simulations obtained with the INRIA software package SICONOS: http://siconos.gforge.inria.fr/4.1.0/html/index.html

Applicants should hold a PhD (defended between 1st September 2016 and 31st October 2018) in Systems and Control or Applied Mathematics. Starting date: 1st November 2018, duration: 16 months.

Main activities

Skills

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

Remuneration
Gross salary: 2650 Euros per month.