

PHD Call for Application

SECTOR: Higher Education Institution

LOCATION: France, Grenoble

RESEARCHER PROFILE:

First stage researcher,

INSTITUTION: Univ. Grenoble Alpes, University of Innovation

One of the major research-intensive French universities, Univ. Grenoble Alpes**1 enjoys an international reputation in many scientific fields, as confirmed by international rankings. It benefits from the implementation of major European instruments (ESRF, ILL, EMBL, IRAM, EMFL*2). The dynamic ecosystem, grounded on a close interaction between research, education and companies, has earned Grenoble to be ranked as the 5th most innovative city in the world. Surrounded by mountains, the campus benefits from a natural environment and a high quality of life and work environment. With 7000 foreign students and the annual visit of more than 8000 researchers from all over the world, Univ. Grenoble Alps is an internationally engaged university.

A personalized Welcome Center for international students, PhDs and researchers facilitates your arrival and installation.

In 2016, Univ. Grenoble Alpes was labeled «Initiative of Excellence ». This label aims at the emergence of around ten French world class research universities. By joining Univ. Grenoble Alpes, you have the opportunity to conduct world-class research, and to contribute to the social and economic challenges of the 21st century ("sustainable planet and society", "health, well-being and technology", "understanding and supporting innovation: culture, technology, organizations" "Digital technology").

* ESRF (European Synchrotron Radiation Facility), ILL (Institut Laue-Langevin), IRAM (International Institute for Radio Astronomy), EMBL (European Molecular Biology Laboratory), EMFL (European Magnetic Field Laboratory)

Key figures:

- + 50,000 students including 7,000 international students
- 3,700 PhD students, 45% international
- 5,500 faculty members
- 180 different nationalities
- 1st city in France where it feels good to study and 5th city where it feels good to work
- ISSO: International Students & Scholars Office affiliated to EURAXESS

¹ Univ. Grenoble Alpes

REFERENCES:

IDEX PROJECT TITLE: **MMI-SMA-BC**

SUBJECT TITLE: **Designing and implementing a multi-agent architecture for trading on an open and secure interbank money market**

RESEARCH FIELD (cf mots clefs sur Euraxess Jobs): **Economics, Computer science**

SCIENTIFIC DEPARTMENT (LABORATORY'S NAME): **CERAG, LIG**

DOCTORAL SCHOOL'S: **EDSG**

SUPERVISOR'S NAME: **Paul Reaidy, Philippe Madiès and Julie Dugdale**

SUBJECT DESCRIPTION:

The Interbank Money Market (IMM) is a complex and essential market for the proper functioning of country's banking system and economy. The main purpose of this thesis is the design and development of tools and forms of secure and agile organizations that can bring more stability and resilience to the IMM system.

Two research questions are identified: Which learning methods and evolving forms of knowledge help to maintain trust between market players? Which market configurations and stakeholder strategies are more likely to stabilize interbank market rates? To answer these questions, the PhD student will develop a mixed research approach based on a qualitative exploratory method, supplemented by a quantitative flow simulation method.

The management of the complexity and dynamics of the IMM system will be done according to a decentralized and self-organizational approach based on a Multi-Agent System (MAS). The registration of securities sale or purchase transactions will be done in using decentralized mode based on blockchain. A computer platform will be developed for the simulation combining technologies like MAS and Blockchain. It will be based on actual interbank transactions. Different scenarios will be tested under symmetric or asymmetric situations in order to examine the stability and resilience of the system.

ELIGIBILITY CRITERIA

Applicants must hold a Master's degree (or be about to earn one) or have a university degree equivalent to a European Master's (5-year duration),

Applicants will have to send an application letter in English and attach:

- Their last diploma
- Their CV
- A short presentation of their scientific project (2 to 3 pages max)
- Letters of recommendation are welcome.

Address to send their application: paul.reaidy@univ-grenoble-alpes.fr

SELECTION PROCESS

Application deadline: **2th June 2019** at 17:00 (CET) on <https://doctorat.univ-grenoble-alpes.fr/fr/presentation-dudoctorat/les-ecoles-doctorales/les-ecoles-doctorales-575193.htm>

Applications will be evaluated through a three-step process:

1. Eligibility check of applications in **June 10th 2019**
2. 1st round of selection: the applications will be evaluated by a Review Board in **June 14th 2019**. Results will be given in **June 19th 2019**.
3. 2nd round of selection: shortlisted candidates will be invited for an interview session in Grenoble on **June 27th 2019**. (if necessary)

TYPE OF CONTRACT: temporary-3 years of doctoral contract

JOB STATUS: Full time

HOURS PER WEEK: 35

OFFER STARTING DATE: 01 September 2019

Salary: between 1768.55 € and 2100 € brut per month (depending on complementary activity or not)