



Grenoble INP - UGA is a member of **international** engineering and management education and research **networks**. It is widely recognized in national and international rankings.



8 schools + **40** laboratories
9 000 students
1 300 teaching, research, administrative and technical staff

Grenoble INP-UGA is a renowned public institution of higher education and research, and a major player in the Grenoble ecosystem. It is the engineering and management institute of Grenoble Alpes University, and plays a leading role in the scientific and industrial community.

University Professor Position

Short Profile	Infrastructures, systems and large-scale networks
Body	University Professor
Position N°	27 PR 0558
CNU Section	27
Site	Grenoble
Start by	01/09/2022
Key words	Large-scale IT infrastructures, operating systems, networks

Grenoble INP – UGA is a university recognized for its academic and research excellence through obtaining the French label “Initiative d’excellence”. It offers innovative engineering and management programs, with an increasing internationalization of its course offers. The courses are grounded in sound scientific knowledge and linked to digital, industrial, organizational, environmental and energy transitions. The school constitutes the institute of engineering and management for Grenoble Alpes University, with its 1300 staff members (teacher-researchers, lecturers, administrative and technical staff) and 9000 students. It located on 8 sites (Grenoble INP - Ense3, Grenoble INP - Ensimag, Grenoble INP - Esisar, Grenoble INP - Génie industriel GI, Grenoble INP - Pagora, Grenoble INP - Phelma, Polytech Grenoble, Grenoble IAE and the INP Prepa). Grenoble INP is also a highly-ranked institution of higher education and research, leading the way in the fields of engineering and management on an international scale. It is a member of a large number of international academic and research networks. It is part of the European University UNITE!.

As part of Grenoble Alpes University, Grenoble INP has associated guardianship of 40 national and international research laboratories and of technological platforms. The research conducted there benefits both its socio-economic partners and its students. Grenoble INP is at the heart of the following scientific fields: physics, energy, mechanics and materials science, digital science; micro and nano-electronics, on-board systems; industry of the future, production systems, environmental science and management.

Grenoble INP - UGA is an equal opportunity employer committed to sustainability. Grenoble INP-UGA celebrates diversity and equity and is committed to creating an inclusive environment for all employees. All qualified applications will be considered without discrimination of any kind.

Teaching

School : Grenoble INP - Ensimag

School Website : <http://ensimag.grenoble-inp.fr/>

Contacts : jean-louis.roch@grenoble-inp.fr, christophe.rippert@grenoble-inp.fr

Grenoble INP-Ensimag is a leading French school in the digital field. It provides high quality theoretical and technological courses in computer science and applied mathematics. It prepares students for careers as digital engineers in many sectors such as information systems, finance, embedded systems, networks, and all industries for design and decision support tools.

Teaching profile:

Ensimag, a recognized school of higher education in digital technology,, is recruiting a computer science professor with the motivation and ability to create and take responsibility for courses from the 1st to the 3rd year of engineering, as well as in the Master's program. The successful candidate will take responsibility for modules in the Ensimag core curriculum, which covers the whole of the first year and about 50% of the second year courses.

Grenoble INP-Ensimag aims to strengthen and broaden its offerings in the field of systems and networks. The candidate will have to join the Grenoble INP Ensimag teaching teams in these fields, primarily the Architecture-System-Control teaching team, but also the Telecommunications-Networks-Information and Programming-Software teaching teams. He or she will be involved in the teaching modules (lectures/DD/TP) of the large-scale systems and networks core curriculum (clouds, Internet of Things, edge computing, applications). In collaboration with the teams of teachers concerned, he or she will be involved in the development of project-based teaching and lifelong learning, particularly in the development of digital training materials.

Grenoble INP-Ensimag seeks to train all of its students in responsible and ecologically efficient digital technology; we expect these aspects to be taken into account in the curriculum, particularly with regard to ethical aspects. In addition, a strong involvement in the school's collective responsibilities is expected.

Research

Equipe : LIG (UMR 5217 Grenoble-INP, UGA et CNRS)

Site web Laboratoire : <http://www.liglab.fr/>

Contacts : noel.de-palma@grenoble-inp.fr

The Grenoble Computer Science Laboratory (LIG) is a large-scale laboratory whose academic partners are: CNRS, Grenoble INP, Inria Grenoble Rhône-Alpes, and Grenoble Alpes University,

The LIG brings together nearly 500 researchers, teacher-researchers, PhD students and research support staff. They come from different organizations and are spread over three LIG sites: the campus, Minatec and Montbonnot. We aim to leverage the complementarity and recognized quality of the 24 LIG research teams to contribute to the development of fundamental aspects of computer science (models, languages, methods, algorithms) and to develop synergy between the conceptual, technological and societal challenges associated with this discipline.

The diversity and dynamic nature of data, services, interaction devices and usage contexts require the evolution of systems and software to guarantee essential properties such as reliability, performance, autonomy and adaptability. These challenges are addressed by the five research themes explored at LIG:

- Software and Information Systems Engineering,

- Formal Methods, Models and Languages,
- Interactive and Cognitive Systems,
- Distributed Systems, Parallel Computing and Networks,
- Large Scale Data and Knowledge Processing.

The LIG intends to be a laboratory focused on the foundations and development of computer sciences, while ensuring an ambitious opening to society to accompany the new challenges.

Research profile:

Nowadays, infrastructures, systems, and large-scale networks have become essential for companies and even for individuals who depend on them directly or indirectly without knowing it. Whether for access to distributed services or computing resources, these systems, often virtualized, provide computing resources on demand and must ensure performance and availability levels while reducing their environmental impact.

The construction, management and optimization of these systems, as well as the development of high-performance applications, raise major issues and have a strong potential in terms of scientific visibility, international attractiveness and industrial valorization.

In recent years, in order to meet these needs for performance, reliability, security, a small energy footprint, and new application requirements (learning, digital twins, workflows from the edge to the cloud/computing center, devops, monitoring via the Internet of Things), hardware architectures have become more complex. Hardware architectures have become more complex in terms of computing resources (multi-core and many-core architectures, GPU/TPU gas pedals, FPGAs, ASICs), memory (NVRAM, burst buffers, transactional memories) and networks (IoT, new generations of Wi-Fi and mobile networks). These new heterogeneous and distributed environments, which inherit the size of supercomputers and the cloud, and the diversity of embedded systems, therefore require virtualized system and network architectures and programming models adapted to provide robust, scalable, secure and high-performance services.

The scientific profile and the research project of the candidates must be in line with at least one of the following themes

- OS kernel, virtualization, fault and delay tolerant architectures;
- Resource management and performance optimization (computing time, scalability, energy, resilience, ...);
- Design and optimization of large-scale parallel or distributed applications (HPC, edge, cloud, serverless, embedded);
- Protocols and communication mechanisms (efficient, low power, secure, etc.)

The candidate would be working in one of the teams of the Distributed Systems, Parallel Computing and Networks axis (composed of the CORSE, DRAKKAR, DATAMOVE, ERODS, POLARIS teams).

Position assigned in a restricted area: NO

(Protection of the scientific and technical potential of the nation, conditioning the appointment of the teacher-researcher to the authorization of the Defense Security Officer).

Specific Requirements or Conditions

Administrative activities related to the duties of professors: responsibilities for a teaching or research unit, responsibilities for a course or year.

How to apply

Applications must be submitted on the Galaxie platform of the Ministry of Higher Education and Research between Thursday, February 24, 2022, 10:00 a.m. (Paris time) and Thursday, March 31, 2022, 4:00 p.m. (Paris time), the closing date.

Any submission received outside the Galaxie platform will not be taken into account.

When the selection committee interviews the candidates, they will be asked to take part in a professional teaching situation; the details will be communicated when the invitation is sent out. In addition, part of the interview may be conducted in English.