8 schools + **38** laboratories

8 350 students

1 300 teaching, research, administrative and technical staff

HR EXCELLENCE IN RESEARCH

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

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.

Professor

Research profile field	Computer Sciences and Networks
Requested job profile	Professor
Ministerial reference for the position	62 PR 0753
CNU Section	62
Job Location	Polytech :Grenoble (Saint Martin d'Hères) –14 pl. du Conseil de la Résistance.
Hiring date	01/09/2024 (DD/MM/YY)
keywords	**Computer programming, networks, systems, machine and system design**

Grenoble INP - UGA is a leading public institution accredited with 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 Engineering and Management Institute of Grenoble Alpes brings together more than 1300 staff members (teacher-researchers, lecturers, administrative and technical staff) and 8 350 students, 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 38 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; digital; micronanoelectronics, embedded systems; industry of the future, production systems, environment; management and business sciences.

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 – Polytech Grenoble

School website: https://polytech.grenoble-inp.fr/

Contact: Pr. Céline Darie, Directrice, celine.darie@univ-grenoble-alpes.fr

School presentation:

Polytech Grenoble is an engineering school of Grenoble INP, the engineering and management institute of Grenoble Alpes University*. A member of the Polytech network, it is a public school accredited by the Commission des titres d'ingénieur.

The 5-year program (bac to bac + 5), which includes a core curriculum common to all specialties, is designed to provide students with scientific, general and technical knowledge and skills related to the professions covered by the various diplomas offered.

Teaching Profile:

Polytech Grenoble and its specializations in Computer Science, Computer Science and Electronics for Embedded Systems and Information Technology for Health cover a broad spectrum of computer science fields, from theoretical fundamentals to current applications (DevOps, Iot, AI, Cybersecurity, human interactions, etc.). The person recruited will participate in the reinforcement of fundamental teaching at undergraduate level in one or more specialties. In the Computer Science specialization and at Master's level, preference will be given to reinforcing subjects linked to computer networks or related fields (systems, hardware and software architectures, security).

Some courses may be taught in English, and the person recruited must be able to teach in English or, if necessary, take additional training to bring themselves up to standard.

Research

Laboratory: **VERIMAG**

Laboratory website : https://www-verimag.imag.fr/?lang=fr

Contacts : M. David MONNIAUX, Directeur, david.monniaux@univ-grenoble-alpes.fr

Presentation of the laboratory :

The Verimag laboratory develops fundamental and applied research for the design of safe and secure computerized systems: low-level security of software against software and hardware attacks; modular, hybrid and component systems; implementation and design with constraints on shared hardware resources; frugal and resilient computer systems, socio-environmental responsibility; foundations of autonomous systems engineering based on machine learning; formal proofs.

Research Profile :

Cyber-physical systems are increasingly autonomous, connected and adaptable, making them more and more vulnerable to faulty or hostile environments. Conventional programming techniques have their weaknesses, which must be overcome. The inclusion of components based on artificial intelligence (machine learning) gives them new possibilities, but introduces new vulnerabilities and implies rethinking the notion of specification. On the other hand, artificial intelligence can be exploited to improve program synthesis, verification and bug-finding.

Formal proof (in various forms: assisted proof, model-checking, abstract interpretation, etc.) is now used to build particularly critical systems (formally verified compilation in avionics and nuclear power, for example). Semi-formal methods have been deployed by major industrial players (Microsoft, Facebook...). Research is still needed to make these methods more accurate, more scalable and more lightweight, so as to extend their fields of application.

Digital technology, and in particular the construction of devices, consumes resources, notably fossil fuels; it is therefore important to promote resilience, frugality and adaptability, rather than disposability. Verimag's research is designed to meet these challenges.

The person recruited must have built up a high level of scientific expertise and be able to take on large-scale research projects and develop national and international networks and collaborations.

The following themes are part of major national and/or site programs:

1. Frugal and resilient computing; socio-environmental responsibility.

2. Security at the interface between software and hardware (see national acceleration strategy), low-level operating systems, compilation.

3. Machine learning systems: specification, validation, monitoring.

The successful candidate will join the Verimag laboratory, and his or her research activity must be in line with the laboratory's general theme.

The university professor recruited will be expected to assume leadership and supervisory functions within the laboratory. In particular, it would be appreciated if he/she could take over the leadership of themes such as the verification of systems based on machine learning or cybersecurity.

Position located in a restricted area: NO

(to protect the nation's scientific and technical potential, the appointment of teaching and research staff is subject to the authorization of the Defence Security Officer).

Specific requirements

Administrative activities linked to the duties of the Associate Professor: teaching unit responsibilities, course or year responsibilities.

In the context of research, excellence and increasing internationalization, the quality of research activities must be attested by recent publications in the best journals or international or international conferences in their field.

How to apply

Applicants must submit their applications on the Galaxie Platform of the French Ministry of Higher Education and Research from the 22nd of February 2024, 10 a.m. (Paris time zone) to the 29th of March 2024, 4 p.m. (Paris time zone), deadline.
Any document sent outside the Galaxie procedure will not be taken into account.
The interview will include simulation/situational exercises.

The details will be communicated when the invitation is sent out. In addition, part of the interview may be carried out in English.