RECRUITMENT OF ASSOCIATE PROFESSORS
2021 SESSION

Grenoble INP, Engineering Institute of the Univ. Grenoble Alpes, labeled Initiative of Excellence, is a public institution offering engineering courses with solid basic scientific content, a high technological specialization in connection with strong societal challenges related to digital, industrial, environmental and energy transitions. and a major internationalization of its courses. Grenoble INP employs more than 1,200 people (associate and full professors, lecturers, administrative and technical staff) and has 5,500 students in its 6 engineering schools (Ense3, Ensimag, Esisar, GI, Pagora, Phelma) and the Prépa des INP. From 2020, Polytech Grenoble and Grenoble IAE join Grenoble INP and considerably expand its training offer. Grenoble INP is recognized in national rankings as one of the leaders in engineering with international visibility. It is member of international engineering networks as well as the European university UNITE!.

Grenoble INP is a mother institution of more than 30 research laboratories, some of them international, and platforms where state-of-the-art research is carried out to develop knowledge, promote it to our industrial partners and transfer it to students. Grenoble INP is thus at the heart of the technological challenges of the future: Energy and materials; Digital sciences; Micro nanotechnology; Future industry and eco-efficient production in which international rankings recognize it as a leading player.

POSITION DESCRIPTION

Short profile:
« Design and management of complex, evolutive and responsible systems »

Category : Maître de conférences

Job number : 27 MCF 0671

Field of expertise : 27

Recruitement date : 01/09/21

Location : Grenoble

Keywords : Software Engineering, components, continuous integration, complex systems

TEACHING

School : Grenoble INP - Ensimag
School web site : http://ensimag.grenoble-inp.fr/
Contact persons : jean-louis.roch@grenoble-inp.fr, christophe.rippert@grenoble-inp.fr

Ensimag is one of the best French engineering school in the digital and information technology domain. It offers very high-level conceptual and technological classes in the fields of computer science and applied mathematics. It prepares people for digital engineering jobs in many sectors, it core sectors such as information systems, banking, embedded systems, networks, but also the industry as a whole, for digitalization, design and decision-making tools.

Teaching profile :

Ensimag, a reference school of higher education for digital and information technology, wants to consolidate its teaching in the field of computer system design in the broadest sense. The courses focus on the implementation chain to train engineers in the design of secure systems: from modeling to implementation with evaluation and testing (programming, system, architecture, algorithmic, discrete mathematics, service architectures and distributed applications ...) of all elements of the processing chains from software and hardware components validated, proven or certified.

The person recruited must have a solid knowledge of computer science and software development. He or she will have to be involved in the teaching of the Ensimag core curriculum (1st year and about 50% of the courses in the 2nd year): algorithmics and programming, modeling and implementation, software projects (in particular the "software engineering" project during the 2nd year), software architecture and eco-responsible development. This common core is the foundation of our engineering students, recognized by our industrial and research partners, which allows them to specialize and also to remain generalist and adaptable. The newly recruited person might be led to develop courses at the frontier of applied maths and computer science and is expected to take on pedagogical responsibilities.

In collaboration with the pedagogical teams concerned, it will have to get involved in the setting up of project-based teaching and training using digital technology.

RESEARCH

Research laboratory : LIG (UMR 5217 Grenoble-INP, UGA and CNRS)
Website : http://www.liglab.fr/
Contacts : noel.de-palma@grenoble-inp.fr

Grenoble Informatics Laboratory (LIG) is one of the largest laboratories in Computer Science in France. It is structured as a Joint Research Center (French Unité Mixte de Recherche - UMR) founded by the following institutions: CNRS, Grenoble Institute of Technology (Grenoble INP), Inria Grenoble Rhône-Alpes, Grenoble Alps University.

500 members of LIG (faculty, full-time researchers, PhD students, administrative and technical staff) are distributed over three sites in Grenoble and its suburbs: the Saint Martin d'Hères Campus, Minatec, and the Montbonnot Campus.

The mission of LIG is to contribute to the development of fundamental aspects of Computer Science (models, languages, methodologies, algorithms) and address conceptual, technological, and societal challenges. Increasing diversity and dynamism of data, services, interaction devices, and use cases influence the evolution of software and systems so they need to guarantee the essential properties such as reliability, performance, autonomy, and adaptability. Addressing such challenges is the objective of 24 research teams organized into 5 focus areas:

    Data and Knowledge Processing at Large Scale,
    Distributed Systems, Parallel Computing, and Networks.
    Formal Methods, Models, and Languages,
    Interactive and Cognitive Systems,
    Software and Information System Engineering.

LIG focuses on the fundamentals of Computer Science and experimental developments while taking into account new societal challenges.

Research profile :

The increasing complexity of systems challenges traditional design and control methods. This complexity is related to : (i) multiple actors and levels of intervention (applications, services, systems, etc.); (ii) a distributed software architecture, with heterogeneity and massive scale of components; (iii) the dynamic nature of operating modes and runtime environments. In addition, it becomes necessary to take into account new properties related to responsibility and ethics from design to execution. Challenges include establishing methods and tools for the design, integration and continuous on-line evolution of systems.

The scientific profile and the research project of the candidates will have to fall under at least one of the following themes of the Software Engineering and Information System Axis of the LIG:
- Model and method engineering (model inference, dedicated languages, ...);
- Test methods to guarantee the safety and non-regression of systems during evolution;
- Confidence management in data and documents;
- Architectures and middleware for reconfigurability and dynamic software evolution, coordination of

multiple managers;
- Model-based decision methods for self-adaptation (continuous and discrete automation, dynamic scheduling, reinforcement learning, ...).

Restricted regime area (ZRR): ~~YES~~ NO
(French governmental protection of scientific and technological research program)

PARTICULARITIES AND CONSTRAINTS

Administrative activities related to the duties of lecturer: teaching unit responsibilities, course or year responsibilities.

HOW TO APPLY

Online application must be done on the website Galaxie from   2021, 10 am (GMT+1) to   2021, 16 pm (GMT+1). Postal applications won't be accepted.

The interview will include simulation/situational exercises. The interview will be held in French; a part of it could be held in English. Further information will be provided with the letter of convocation.