Institute of Engineering and Management
of Grenoble Alpes University

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 + **39** laboratories
8 300 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.

Associate Professor

Research field	Computer graphics / Computer vision / Geometric modeling
Category / Requested profile	Associate Professor
Ministerial reference for the position	27 MCF 0679
CNU Section	27
Location	Grenoble
Date of recruitment	01/09/2025 (DD/MM/YYYY)
Position key words	Computer graphics; computer vision; geometric modeling; machine learning ; rendering; video indexing ;

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 1,300 staff members (teacher-researchers, lecturers, administrative and technical staff) and 8,300 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 Prépa). 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 numerous 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 39 national and international research laboratories and of technological platforms. The research conducted here 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 technologies; micro-nanoelectronics, embedded systems; the industry of the future, production systems, environment; as well as 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 - Ensimag

School website: http: https://ensimag.grenoble-inp.fr/

Contacts: emmanuel.maitre@grenoble-inp.fr, christophe.picard@grenoble-inp.fr

School presentation :

Since its creation, Grenoble INP - Ensimag has established itself as a leading school in digital technologies, combining expertise in applied mathematics and computer science. The school aims to train engineers with a deep mastery of the fundamental principles, ensuring their ability to keep up with technological advancements and continuously adapt throughout their careers.

In a world where the digital economy generates a quarter of global growth, information technologies now account for more than one in three job opportunities for executives across diverse sectors, including health, culture, energy, and environmental sciences. In this context, Grenoble INP - Ensimag positions itself at the heart of the digital revolution, shaping engineers ready to tackle the complex challenges of contemporary society.

Every year, Grenoble INP - Ensimag welcomes and trains over 300 students in its core disciplines, with the ambitious educational goal of transforming them into the inventors, engineers, and operators of tomorrow's society and addressing the environmental challenges posed by digital technologies.

Teaching Profile:

This position is part of a teaching project at Grenoble INP - Ensimag, a benchmark institution in the digital sector, where there is a strong need for teaching in computer graphics and computer vision. For over 30 years, Grenoble INP - Ensimag has been offering specialized training in 3D imaging through its MMIS (Mathematical Modeling, Images and Simulation) program, which has become a reference for CAD software companies, image and video software publishers, and animation studios. The program is highly attractive, attracting top-tier students in mathematics and computer science to Grenoble.

The appointee must be capable of teaching core courses in the Ensimag curriculum, including algorithms, programming, numerical analysis, signal processing, or image processing. Knowledge of C++ will be highly valued. The candidate may also be required to develop courses at the intersection of mathematics and computer science and take on pedagogical responsibilities.

Additionally, within the framework of the new "Visual Computing" specialization, the successful candidate will contribute to the development of computer science courses and projects in areas such as computer vision, computer graphics, or AI techniques applied to these fields.

Research

Host laboratory: LJK (UMR 5224 Grenoble INP - UGA, UGA et CNRS)

Reserach teams : research teams within the Department Géométrie et Image of LJK

Laboratory website: https://www-ljk.imag.fr/

Contacts *:* jean-guillaume.dumas@univ-grenoble-alpes.fr

Laboratory presentation:

The Jean Kuntzmann Laboratory (LJK) is a research laboratory in applied mathematics and computer science, bringing together teams of probabilists-statisticians, specialists in computer graphics, vision and image processing, as well as experts in scientific computing.

This multi-disciplinarity makes the LJK a rich and dynamic environment, both in terms of research topics and human collaboration. It is this diversity that gives the LJK its dynamism, and the fundamental challenge for its management is to maintain this emulation through a policy of structural cohesion.

The LJK maintains strong ties with businesses industry, particularly through the MaiMoSiNE and AMIES organizations.

Research Profile:

A wide range of visual computing themes are represented in the Geometry-Image department, driven by unprecedented industrial interest in this field. Numerous activities are tied to these promising themes and would benefit from being strengthened and represented in both research and teaching in the Grenoble area. Several scientific challenges need to be addressed along complementary trends, such as the analysis of large volumes of visual data, large-scale visual datasets, multi-image and possibly temporal data; the multi-modal processing of data accompanying images (text, audio, medical data); as well as the modeling and simulation of physical-world phenomena to enable their extraction or representation through animation or rendering.

This requires the exploration of new approaches to analysis and synthesis—often dual in nature—leveraging tools such as machine learning or statistical methods, and innovative physical or perceptual models.

The recruited candidate will need to develop a detailed integration project within one of the teams in the department by establishing contact with the team. They will continue their research activities in one or more of the following areas:

- Semantic analysis and generative models for images and videos
- Leveraging learning models in real-world applications (medical, robotic, mechanical)
- Multimodal processing for exploring other data sources such as audio, text, volumetric imaging, or physical sensors
- Acquiring geometric, reflectance, and motion properties of an object from one or multiple images
- Direct and inverse geometric modeling
- Computational design and fabrication
- Style transfer of appearance, geometry, or motion, using photographs or 3D acquisitions
- Innovative rendering models, including differential rendering, efficient representation and rendering of complex scenes, physical models, lighting models, and surface properties
- Analysis, modeling, representation, and synthesis of materials and textures, both 2D and volumetric
- Efficient algorithms and representations for real-time processing, particularly on GPUs.

Specific requirements or conditions

Administrative Activities Related to this position of Associate Professor :

Candidates recruited as Associate professors are likely to take on collective responsibilities such as being in charge of a teaching unit, a teaching programme or an entire year of study.

In the context of research, excellence and increasing internationalization, the quality of candidates' research activities must be attested by recent scientific production (publications, communications, etc.) in the best journals or international conferences in their fields.

In addition to scientific excellence and consistency between both the applicant's and the host laboratory's research strategy, candidates should describe how their integration project meets responsible research objectives that are compatible with the socio-environmental issues applicable to their field of research, and how the principles of open science are taken in account.

How to apply

Applications must be submitted via the Odyssée platform of the French Ministry of Higher Education and Research, between Tuesday March 4th 2025, 10am (Paris time) and Friday April 4th 2025, 4pm (Paris time), deadline.

Any document sent outside the Odyssée application will not be taken into account.

When candidates are interviewed by the selection committee, they will be asked to take part in a pedagogical work experience, the details of which will be communicated when the invitation is sent out.

Please note that part of the audition may also be carried out in English.