Institute of Engineering and Management
of Grenoble Alpes University

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**.**

8 schools + **38** laboratories
8 350 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 profile field	Analytical chemistry and chemistry applied to plant biomass
Requested job profile	Associate professor
Ministerial reference for the position	31/32 MCF 0725
CNU Section	31 and 32
Job location	Grenoble (Saint Martin d'Hères campus – PAGORA – LGP2 laboratory)
Hiring date	01/09/2024 (DD/MM/YY)
keywords	Analytical chemistry, plant biomass, biopolymers, biorefinery, biobased materials

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 - Pagora

School website: http://pagora.grenoble-inp.fr/

Contacts: Lionel.Chagas@grenoble-inp.fr; evelyne.mauret@grenoble-inp.fr ;

School presentation:

Grenoble INP-Pagora is the only public school in France to train engineers for the plant fiber, paper and cardboard, printed communication, packaging and biomaterials industries. Its ambition is to become an international benchmark in these fields. Pagora is at the heart of current societal concerns. The school provides training in the development of renewable, biosourced and recyclable solutions to replace many of the products we use every day, such as single-use plastics. It also provides training in new applications for printing and surface functionalization processes, notably printed electronics. Pagora, in complete synergy with its research laboratory, LGP2, has always known how to innovate and anticipate the expectations of its partners. Pagora offers a three-year training program (initial training and apprenticeship), with two options: (i) Fiber and Biomaterials Engineering - IFB and (ii) Printed Communication Engineering - ICI. Its graduates are destined to take up responsible technical and management positions in these professions, including internationally. It also provides access to two Master's courses, one of which is entitled Biorefinery and Biomaterials (Bio2).

Teaching Profile:

The courses taught by the new MCF will be part of Pagora's training programme and may cover the following topics:

- General chemistry

- Analytical chemistry applied to plant biomass,

- Chemistry of lignocelluloses and biorefinery processes

- Biorefinery for the extraction of compounds of interest from plant biomass.

These courses are given in the form of lectures, practical work and projects as part of the engineering training at Grenoble INP-Pagora. They will be given mainly in years 1 and 2, and in the IFB option of the engineering training program. In addition, the new MCF will participate with the existing teaching team in the teaching and development of the Bio2 Master's course. The majority of 2nd year and Master's courses are taught in English.

The associate professor should have a particular affinity for practical teaching and the implementation of projects as part of the curriculum. Like all other teachers at the school, he or she will be responsible for supervising apprentices, internships and final-year projects, and will be in regular contact with industry. She or he must have a taste for active teaching methods, and must integrate the skills-based approach deployed at Pagora. He or she will participate in juries and other pedagogical meetings.

He or she will have to take account of environmental transition aspects in carrying out his or her tasks. He or she may be asked to participate in their deployment in teaching, with students and staff. Pagora is a pilot school for the UVED (virtual university for the environment and sustainable development).

Research

Host laboratory: LGP2 (UMR 5518 Grenoble-INP, UGA et CNRS)

Laboratory website: https://lgp2.grenoble-inp.fr

Contact: anne.blayo@grenoble-inp.fr

Laboratory presentation:

The Laboratory of Process engineering for Biorefinery, Bio-based Materials and Functional Printing (LGP2) is a Mixed Research Unit, UMR CNRS 5518, created in 1995 and whose supervisory bodies and partners are the UGA, Grenoble INP, CNRS and Agefpi (private partner). The unit's workforce (~ 80 people) comprises 22 permanent researchers, 19 support staff (9 FTE), and around 40 PhD and post-doc students. LGP2 comprises 3 research teams (BioChip/MatBio/FunPrint).

The position will be assigned to the MatBio and BioChip teams.

Research at LGP2 focuses on plant biomass conversion and recovery operations, and in particular on biorefineries integrated into paper processes. The BioChip team focuses on the study of energy- and raw material-efficient processes using green chemistry. The MatBio team develops research into the elaboration processes and final properties of biosourced materials with a multidisciplinary and integrated approach (from the elementary brick to the final material). The themes of these two teams are in line with those of the LabEx Tec 21 and the Institut Carnot PolyNat.

To carry out their work successfully, these two teams need to significantly strengthen their skills in chemistry, and more particularly in analytical chemistry, given the strong growth in research activities in areas relating to plant biomass.

Research Profile:

The research areas associated with this position fall more specifically within the following themes:

- biomass chemistry

- analytical chemistry applied to plant biomass and biopolymers (cellulose, hemicelluloses, other polysaccharides, lignin),

- analytical chromatography (ionic, SEC, HPLC in organic and aqueous media, GC-MS...),

- spectroscopic techniques (solid and liquid 13C and 19F and 1H NMR, FTIR, XPS, XRD...),

- analysis of polymer molar mass distribution and functional groups,

- structural analysis of biobased materials,

- development of analysis methodologies adapted to lignocellulosic materials, in particular structural analysis methods (EDX, TOF-SIMS, MALDI-TOF) and elemental analysis,

- development of techniques for monitoring the release of molecules.

Some of the equipment concerned is available at LGP2, while others are accessible on shared instrument platforms (e.g. CMTC, ICMG) or in other neighboring laboratories (e.g. CERMAV or CEA).

These techniques will serve research activities in biorefinery and materials science (functionalization of biopolymers, for example).

The research activity presented in the application must be proven, in particular by international publications.

Specific requirements

Administrative activities related to the duties of a lecturer / Professor: he or she will be in charge of a teaching unit, a programme or a year.

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.