



Tenure Track position

MAGIEC: thermo-hygro-mechanical behaviour of geo-sourced materials

Research:

Location(s) of practice: Anglet
 Name of lab director: Laurent Pécastaing
 Tel lab director: +33 5 59 40 74 65
 Email lab director: laurent.pecastaing@univ-pau.fr
 Lab URL: <https://siame.univ-pau.fr>

Descriptif projet :

The MAGIEC Chair is interested in the thermo-hygro-mechanical study of geo-sourced materials through the development of experiments, modelling and numerical simulations coupled at the material and structure scale. Devices will have to be developed to acquire the experimental data necessary at the different scales: materials, product and walls. Simulating the short- and long-term behaviour of buildings and infrastructures incorporating these materials is crucial to promote their use and dissemination, as the relative normative context is non-existent. Collaborations will be established with companies to consider several product families and construction techniques, and thus facilitate the transfer to socio-economic actors. In addition, the laureate is expected to interact with other scientific fields to give his or her research an interdisciplinary character and thus be anchored in the institution's mission, *"Representing and building the territories of the future"*.

Description of the laboratory: The [SIAME](#) laboratory is a host team of [the University of Pau and Pays de l'Adour](#) (UPPA) comprising four research teams in the field of engineering sciences. The position is open for recruitment in the [Geomaterials and Structures team](#) of the laboratory located in [Anglet](#) (near Bayonne and Biarritz on the [Basque coast](#)).

The originality of the Geomaterials and Structures (GS) team lies in its complementarity between experimental and numerical studies on the thermo-hygro-mechanical behaviour of construction materials: cementitious materials, geo-sourced, and low-carbon. These studies find their applications in high-temperature behaviour, damage-cracking-transfer coupling, hygrothermal comfort and durability.

The team's nationally recognised skills (numerous ANRs, national projects, PIA, IUF) have been the basis for long-term collaborations with leading companies and research organisations in the field of Civil Engineering.

The UPPA and Nobatek INEF4 have joined forces through a joint "Construction and Sustainable Development" team around a common dynamic with the ambition of accelerating the energy and environmental transition of the building industry.

Settlement strategy:

Ranked among the 17 French universities of excellence with its I-Site E2S project, UPPA affirms its social responsibility, and in particular, its positioning as a resource centre, capable of providing answers and solutions on the scale of current scientific and societal challenges. This ambition, which is at the heart of the strategy shared with the CNRS, INRAE and Inria, is based on a scientific signature focused on environmental, energy and societal transitions, broken down into five interdisciplinary missions, based on sectors of excellence recognized at national and international level, an intensive and innovative partnership model and an international strategy supported by the European alliance Unita. In this context, the deployment of chairs is a crucial issue for the issue of human resources in connection with the need to increase the animation of teams in distinctive sectors and the provision of new skills in certain targeted subjects.

Lab strategy:

In 2013, the Geomaterials and Structures team of the SIAME laboratory positioned itself in the emerging field of geo-sourced materials for construction. With growing dynamism, this major axis of the team's development involves all its members as well as two chairs: one develops geo-sourced materials for hygrothermal comfort¹, the other² focuses on their bio-stabilisation. This project will consolidate the team's skills by focusing on structural applications and building-scale implementation. Thus, the scientific studies concerned will meet the team's ambition in terms of technology transfer and strengthening links with socio-economic partners, but also in terms of international collaborations. With these complementary activities necessary for the use of these materials in buildings, the GS team wishes to make UPPA an attractive and internationally visible centre of competence.

Other information:

Junior Professor positions are for scientists with a PhD who have already demonstrated excellence in their research. After a pre-tenure period of 3 to 6 years and a formal evaluation, the position offers the possibility of being tenured in the body of university professors (PR2C) as a civil servant. For more details, visit the [website of the Ministry of Higher Education](#).

The successful candidate will receive research funding of a minimum of €200,000. This funding can be used to support PhD students, postdoctoral researchers, as well as to cover project-related costs such as equipment purchases, missions, and travel costs.

A research and teaching agreement will outline the requirements for tenure-track positions to align with the missions of the university faculty.

It is expected that the person recruited, if he or she does not hold the HDR (Habilitation), will support one before the end of the contract.

Conditions to be met by candidates:

Applicants must meet one of the following conditions:

1. Hold a doctorate as provided for in Article L. 612-7 of the Education Code.
2. Hold a state or postgraduate doctorate.
3. Hold a doctorate in engineering.
4. Hold a foreign university degree deemed equivalent to the above diplomas; in this case, an equivalence request and a translation are mandatory.
5. Justify scientific titles or work deemed equivalent to the above diplomas; In this case, candidates must apply for equivalency.

¹ ConstrucTerr' Chair, Fionn McGregor chair, E2S support and Materrup startup (2020-2024).

² Chair of Scientific Innovation at the Institut Universitaire de France de Céline Perlot (2022-2026).

Application files, selection and auditions:

Applications will be submitted exclusively online on the Galaxie website (FIDIS module):

https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/cand_recrutement_enseignants_chercheurs.htm

An example of an application form to be completed can be downloaded from the university's recruitment website:

<https://organisation.univ-pau.fr/fr/recrutement/recrutement-des-personnels-enseignants/recrutement-chaire-de-professeur-junior-cpj.html>

The evaluation will be carried out by a commission composed of internal and external experts. The composition of the commission will be made public before its work.

Only applications preselected by the commission, based on the applications for:

1. A simulation (presentation of the project, research of the selected candidates in front of the laboratory) during a seminar of the research team, either in person or by videoconference.
2. A face-to-face or videoconference hearing: presentation of the candidate's application and project for 30 minutes, followed by 20 minutes of exchanges with the committee.

Evaluation criteria:

1. Excellence of the candidate, motivation, leadership ability
2. Quality, originality of research and teaching projects
3. Integration of the project within the laboratory
4. Ability to establish collaborative networks.
5. Adequacy of resources for the proposed project and ability to mobilise additional resources

Teaching:

Location(s) of practice: Anglet

Teaching team: ISA BTP

Director name: Benoît Ducassou

Such a director. : +33 5 59 57 44 36

Email Director Dept. : benoit.ducassou@univ-pau.fr

Dep. URL : <https://isabtp.univ-pau.fr>

Description of the educational duty:

The standard teaching load in France of 192 hours per year will be reduced to 64 hours during the duration of the chair. Teaching will be in civil engineering subjects at the ISA BTP engineering school.

To support the change in practices in Civil Engineering driven by the ecological transition, ISA BTP³ is undertaking a reform of its engineering training syllabus. New modules focused on "low-carbon construction" will be developed. In addition, an international master's course backed by SA BTP dedicated to low-carbon construction will open soon. The laureate will be responsible for the coordination of these new modules and will take an active part in the associated teaching.

Needs have also been identified in terms of continuing and professional training. The winner will help develop training courses such as "Earth as a building material" for architects and environmental design offices. In addition to the supervision of interns, doctoral students and post-doctoral fellows, involvement in doctoral training (ED 211 UPPA) or webinars and doctoral schools (TC RILEM network) is also expected.

³ Institut Supérieur Aquitaine du Bâtiment et des Travaux Publics (UPPA's internal school)