

FULL TIME ACADEMIC POSITION

Faculty of Engineering
-
Chair in Experimental Geomechanics

Faculty of Engineering – Building, Architecture and Town Planning (BATir)

Expected skills:

The applicant should be holder of a **PhD degree in Engineering**. He/she will have demonstrated a significant research background in the field of **Experimental Geomechanics** with applications in engineering fields. He/she will demonstrate his/her ability to define and develop research activities through a significant publication record. A background in managing research projects as well as industrial collaborations would be an asset. A teaching background will be considered as an asset.

He/she will have demonstrated his/her ability to combine his/her experimental characterisation competencies with computational and design tools developed by colleagues, thereby allowing subsequent fruitful interactions with other researchers in the department.

Vacance n° 10/068

Additional information available at

<http://www.ulb.ac.be/docs/greffe/vacances/academique/index.html>

Prière d'afficher S.V.P.

1. **Research objectives and research context:**

The chair holder will develop a research team and a research activity in the domain of Experimental Geomechanics.

He/she will benefit from existing research equipments in the laboratory (which will be enriched by his own activity), including at the present stage:

- A triaxial system for dry or saturated rock samples with computer-controlled stress paths (triaxial compression, extension, proportional, isotropic compression,...) and pore fluid boundary conditions (Instrumentation by means of LVDT transducers and strain gages, and axial pressure or displacement control).
- A triaxial system for dry, saturated or unsaturated rock samples, with computer-controlled stress paths (triaxial compression, extension, proportional, isotropic compression,...).
- Three 14-MPa triaxial cells with accessories and instrumentation
- Shear testing machine for rock joints
- Ultrasonic non-destructive testing devices
- Unconfined compression load frames (50 and 95 kN)
- Two Bishop-Wesley triaxial cells
- Triaxial cell with Wescor Peltier psychrometer
- Full monitored GDS triaxial for soil tests
- Standard devices for soil identification and mechanical tests (triaxial, shear box, oedometers)
- Chemical testing equipment (Leduc test and CEC cationic exchange capacity)
- Special oedometer coupling compressibility and electrical resistivity measurements
- Polarising microscopes
- Taylor-Schneebeli modelling device

Within the BATir department, the chair holder will have the opportunity to develop his research activities (including obtaining research funding) in close collaboration with the researchers in charge of the following chairs: **Soil Mechanics**, **Building Materials Engineering**, and **Non-linear Mechanics of Structures and Materials**.

Teaching objectives:

The applicant will join the teaching team of BATir. In addition to the courses for which he will be responsible (classes, exercises, lab sessions), he/she will contribute to the supervision and evaluation of projects oriented assignments in the Building and Architecture fields. He/she will also contribute to the definition and supervision of Master Theses.

Initially, the teaching assignments could include contributions to the following courses: Rock Mechanics and Dams (4 ECTS), Underground Constructions (4 ECTS), Hydrogeology (3 ECTS), Engineering geology (4 ECTS).

A gradual evolution in the teaching workload will be possible depending on the course program changes. The applicant will be able to teach courses both in French and in English in the frame of common course programs with VUB (Vrije Universiteit Brussel).

2. **Additional information** related to the application and the department can be obtained by contacting Prof. B. Espion (Tel +32.2.650.27.24, Mail: bespion@ulb.ac.be)

3. The application will **mandatorily include** the following documents

- A CV including main achievements, publication records, and potential teaching activities

- A document describing the teaching projects of the applicant
 - A description of the research prospects of the applicant for the coming years (max. 3500 characters)
 - A description of the most important publications of the applicant (max. 3500 characters)
 - Two recommendation letters from internationally known experts in the field
4. The application documents will be sent to the Rector of the University (avenue F.D. Roosevelt, 50 – 1050 Brussels, Belgium)
 5. The deadline for the application is set on 28/02/2011
 6. If the applicant is not already part of the academic or scientific staff or FNRS fellows working at ULB, he/she will be appointed for a trial period not exceeding 5 years before reaching a tenured position.
 7. Starting date of the position: 01/10/2011