



RECRUITMENT OF A TENURE TRACK ASSISTANT PROFESSOR IN GEOMECHANICS

Institution : MINES ParisTech (Ecole Nationale Supérieure des Mines de Paris)

Laboratory : Centre for Geosciences

Developing its research and teaching activities in the field of Geosciences, MINES ParisTech opens an assistant professor position in Geomechanics.

This 3-years position is aimed at a young researcher (man or woman), who appreciates a multidisciplinary work combining fundamental research and industrial applications. The successful candidate will take part to the partnership research work of his/her team and contribute to industrial and economic innovation. He/She will also have the opportunity of defining a PhD subject during his/her first year at the Centre for Geosciences, that he/she will supervise together with a senior member of the team who is officially accredited for such a task.

The position is to evolve into a permanent lecturer and researcher work within 3 years in the framework of a Tenure Track procedure. A description of the process is available on MINES ParisTech website :

<http://www.minesparistech.fr/Ecole/Recrutement/Travailler-a-MINES-ParisTech/>

1. **MINES PARISTECH CENTER FOR GEOSCIENCES**

The Centre for Geosciences of MINES ParisTech focuses on research and teaching activities in the field of applied Earth Sciences. It is located in Fontainebleau, 65 km South of Paris. Research and training activities cover various fields in relation to the understanding of mining and management of underground resources (mineral raw material, oil & gas, groundwater, deep underground energy and waste storages, tunnelling and underground space management) in the context of a sustainable development.

The Centre for Geosciences is divided into six research teams in applied Earth Sciences fields (geology, geophysics, geostatistics, hydrogeology, hydrochemistry, engineering geology and geomechanics). Research activities are generally multidisciplinary and involve several teams of the Centre with topics spanning from original and fundamental developments to innovative industrial solutions. The Department employs about 40 tenured researchers, 35 technicians and administrative staff members and 40 PhD students.

The position concerns the **Geomechanics** team, briefly described below:

The **Geomechanics** team develops research activities related to two major fields : management and exploitation of underground resources and spaces; control of geotechnical hazards and risks. The research programme deals with experimental and theoretical modelling of i) thermo-hydro-mechanical coupled phenomena in porous and fractured rocks, ii) evolution, stability and failure of geomaterials, iii) stability of underground structures, iv) dynamic response of structures.

Several current projects are conducted in close scientific cooperation with the other teams of the Centre for Geosciences and with industrial and academic partners.

2. **DESCRIPTION OF THE VACANCY**

Research

The candidate is expected to conduct research in the field of structural analysis and its applications in the design of civil engineering underground works, geological storage of energy or waste, as well as in the simulation of dynamic behaviour of structures. He/she will contribute to the improvement of the structural analysis software developed by the team.

The candidate is expected to contribute actively to theoretical and methodological studies of thermo-hydro-mechanical coupled processes in rocks, as well as to their application, to underground and environmental engineering.

Teaching-related aspects of the position

The candidate will contribute to teaching general and specialized courses within the different programs of the Earth Sciences Department (MINES ParisTech and associated universities Master programs, continuing education, supervision of trainees and PhD students). Depending on the background of the candidate, teaching topics can address geomechanics, structural analysis, continuum mechanics, finite elements ... The candidate will also be involved in the general organisation of courses and will supervise student internships that are generally chosen in close collaboration with industry.

Special features of the candidate's profile

At the time of the appointment, the applicant must have a doctoral degree in Geomechanics or related subject. A post-doctoral experience, especially in a foreign laboratory, would be an asset for this position.

He/she should prove a significant experience in modelling of the coupled thermo-hydro-mechanical processes in porous and/or fractured media; he/she will show references in terms of software development.

He/she will have to show his/her capacity to conduct research work in a multidisciplinary context, a taste for both theoretical and applied research, together with an aptitude for teamwork and good ability to summarize.

A good knowledge of the English language is required.

3. APPLICATION FILE

The application will include the following items :

- A statement of interest highlighting your particular qualifications for this position;
- A detailed curriculum vitae;
- a statement of teaching and research interests;
- A list of works and publications;
- If feasible, three letters of recommendation to be sent to us by the personalities chosen by the candidate. Otherwise, the file Will include at least the names and addresses of three scientists May be Asked to give an opinion on the application covered's work and skills.

The file (ONE PDF file) should be sent by **October 31th 2016** at the following address:

Mme Isabelle OLZENSKI

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Review of applications will be performed by a Jury composed of representatives of MINES ParisTech and external scientific experts. The applicants that have been short listed will be invited for interviews and a presentation of their scientific project.

For more information, the candidate should contact the Human Resources Department of MINES ParisTech and/or Isabelle OLZENSKI, on administrative matters .

Feel free to contact Hedi SELLAMI, head of the Centre for Geosciences, for any scientific questions.

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