

1 ERC POST-DOC POSITION IN “LABORATORY EXPERIMENTS OF EARTHQUAKE CONTROL”

(GEM LABORATORY, ECOLE CENTRALE DE NANTES, FRANCE)

AVAILABLE POSITION

The appointment forms part of the ERC-StG project “CoQuake” (Controlling earthQuakes, <http://coquake.eu/>), funded by the European Research Council (ERC, <https://erc.europa.eu/>). The position offers the possibility of working on a challenging and stimulating research topic. The knowledge, innovation and skills to be developed will open perspectives for career development.

RESEARCH CONTEXT

Earthquakes are responsible for more than half of the total human losses due to natural disasters (see CRED). CoQuake explores an alternative, ground-breaking approach for exploring the possibility of avoiding earthquakes in the future by inducing them at a lower energy level and mitigating seismic risk.



For more details: https://cordis.europa.eu/project/rcn/212726_en.html
<http://coquake.eu/index.php/publications/>

DESCRIPTION

The research topic is on “*Laboratory experiments of earthquake control*”.

Laboratory experiments with existing unique devices will be performed and a novel metric-scale laboratory apparatus will be developed for studying fault mechanics, earthquake nucleation and control. Under adequate scaling laws, we focus on exploring laboratory pertinent fault stimulating techniques and investigate the conditions under which earthquake control is possible.

REQUIREMENTS

Successful candidates are expected to have strong scientific skills and high motivation. Fluency in spoken and written English is highly advantageous. French is not required, but is appreciated.

The candidates will carry out research, develop tools and write scientific articles in close collaboration with the project’s PI, Pr. Ioannis Stefanou, and the members of CoQuake group at the Ecole Centrale de Nantes (GeM laboratory).

- A strong background in experimental testing
- An interest in mechanical design

Knowledge of physics/mathematics, mechanics and industrial design will be appreciated.

The candidate is expected to have:

- A strong background in experimental testing (e.g. in Geotechnics, Geophysics, Geomechanics).
- An interest in mechanical design.
- Organization skills and rigor.

It will be highly appreciated:

- Use of industrial design software like Solidworks or equivalent.
- Use of Labview software.
- Skills in Python.

- Experience in a lab and team skills.
- Good knowledge of physics/mathematics/mechanics.

CONDITIONS OF EMPLOYMENT

The duration of the appointment is one to two years.

Personal initiative and independent research tasks related with the candidate's interests and CoQuake project will be encouraged. Other activities will include PhD supervision and interaction with Master and undergraduate students.

The project will cover travel expenses for attending international conferences and making research visits.

The successful candidate will be part of the CoQuake research group in GeM Laboratory of the Ecole Centrale de Nantes (<https://www.ec-nantes.fr/>), which gathers nearly 230 people (including 75 researchers, approximately 120 PhD students and Post-Docs and 35 technical and administrative staff), who work in the areas of mechanics and physics of materials, structures and geomaterials, and their applications.

APPLICATIONS

The position is open and will start upon agreement.

Suitable, highly-motivated candidates should send an application (including a CV, a cover letter describing interests and qualifications related to the offered position and contact details of two reference Professors, all compiled in a single PDF file) to ioannis.stefanou@ec-nantes.fr. Candidate selection will be performed on the basis of the excellence of the CV and motivation.

