

Job posted by Deltares (22/02/2012 11.23)

Marie Curie Experienced Researcher Fellowship in Characterization and Modelling of Creep Processes in Peat

A 12 month Post-Doc (or equivalent) position is offered at Deltares (Unit Geo-engineering), Delft, the Netherlands, with regard to the creep properties of soils, in particular peat. Activities will include laboratory testing and test development of samples of in particular peat, and use, evaluation and improvement of numerical models (finite strain as well as finite element) which include viscous effects.

Description

The activities will concerns characterization and modelling of creep processes in soils, but especially peat. Creep of natural geomaterials has detrimental effects on the performance of infrastructure, and has therefore always been a major design issue. Nevertheless, consensus on how to account for creep is currently lacking. Some design tools are over-simplified, others are so complex as to be out of the reach of designing engineers. If as a result the effects of creep are misjudged, structures can be over- or underdesigned, with attendant excessive expenditures either in the construction phase or later for maintenance and repair.

The Fellowship forms part of a project given the acronym CREEP which falls within the Marie Curie FP7 IAPP Action "CREEP" (FP7-PEOPLE-2011-IAPP Project 286397) - Creep of Geomaterials. Work packages have been defined to structure the project. WP1 is concerned with characterization and quantification of creep in different geomaterials, by means of execution and analysis of laboratory tests. WP2 benchmarks various creep concepts for soft clays, defines the most desirable model and implements this. WP3 is directed at special problem soils, while WP4 relates to model application.

The present position concerns activities in work packages WP1, WP2 and WP3, with a focus on peat. Creep tests will be conducted, both oedometric and triaxial or simple shear, and possibly an improved simple shear device will be built for the purpose. The tests will be analysed in terms of characterization, parameter determination and modelling. Special attention is given to pre-loading (surcharge) effects on rate of creep. Models to be applied and improved include 1-D settlement and 2-D finite element methods.

Research Fields

Engineering - Civil engineering

Career Stage

Experienced researcher or 4-10 yrs (Post-Doc)

Research Profile

Recognised Researcher (R2)

Benefits

The remuneration will be in line with the EC rules for Marie Curie grant holders. Gross salary and mobility allowance as given at <http://cordis.europa.eu/fp7/> are subject to Dutch tax laws and regulations.

Comment/web site for additional job details

In IAPP CREEP, applications from female researchers and people representing ethnic minorities are especially encouraged. In case of equally strong applications, females and/or representatives of ethnic minorities will be preferred.

Mobility: At the time of selection, the researcher must not have resided or carried out his/her main activity in the country of the beneficiary home organization (here: The Netherlands) for more than 12 months in the 3 years immediately prior to his/her selection under the project.

Experience: The fellowship can only be awarded to an experienced researchers (ER), who at the time of recruitment by DELTARES is already in possession of a doctoral degree, independently of the time taken

to acquire it, or having at least 4 years of research experience (full-time equivalent) after obtaining the degree which formally allows him/her to embark on a doctorate in the country in which the degree/diploma was obtained or in the country where the knowledge sharing and inter-sector mobility activities are provided (here: The Netherlands).

Requirements

Required Education Level

Degree	PhD or equivalent
Degree Field	Engineering

Required Research Experiences

Main Research Field	Engineering
Research Sub Field	Civil engineering
Years of Research Experience	4

Required Languages

Language	ENGLISH
Language Level	Excellent

Additional Requirements

The successful applicant will have strong credentials and meet the Marie Curie eligibility criteria.

Further qualification requirements are

- Research experience in geotechnical engineering.
- Strong affinity with use and improvement of geotechnical laboratory testing techniques.
- Background in continuum mechanics and finite element modelling techniques.
- Strong technical and good organisational abilities.
- Ability to perform in team project work.
- Fluent in spoken and written English.

Application details

Envisaged Job Starting Date 01/05/2012

Application Deadline 01/05/2012

Application e-mail wiep.hellinga@deltares.nl

Company/Institute: Deltares, Dept of Dike Technology

P.O. Box 177, 2600 MH Delft

NETHERLANDS

phone +31 (0)88 3357212

email <http://www.deltares.nl>

Other job details

Job ID 33756504

Type of Contract Temporary

Status Negotiable

Company/Institute Deltares

Country NETHERLANDS

City Delft

Street P.O. Box 177, 2600 MH Delft

EU Research Framework Programme: FP7/People - Marie Curie Actions

Marie Curie Job Reference Nr: IAPP "CREEP" (FP7-PEOPLE-2011-IAPP Project 286397) - Creep of Geomaterials