



GEO-INSTALL Marie Curie Fellowship (Experienced Researcher)

GEO-INSTALL is a Marie Curie Industry-Academia Pathways and Partnerships project (PIAP-GA-2009-230638) sponsored by the European Community through the programme "People" 2009-2013, which aims to develop novel numerical tools for modelling installation effects of geotechnical structures using Material Point Method, special Finite Element techniques and advanced constitutive modelling. For more information on the project, see <http://geo-install.co.uk>.

Vacancy description:

In the GEO-INSTALL project a 24 months Experienced Researcher (ER) position is vacant at Plaxis/TU Delft in Delft, NL, to do research and make implementations on regularisation methods and adaptive remeshing techniques in the finite element method for geo-engineering applications.

Other information:

The ER will support other work done in GEO-INSTALL project on constitutive models involving softening behaviour and liquefaction. Such models require regularisation techniques to overcome mesh dependency and ill-posedness when implemented in a finite element framework. The project aims to investigate the following:

- Non-local formulation of plastic strains.
- Adaptive remeshing techniques to be able to deal with narrow shear bands.
- Robust numerical implementation in the finite element method.
- Application of newly developed techniques to the installation of piles and other structures in the ground.

Essential expertise:

- PhD or equivalent experience in an engineering or related discipline.
- Computer programming skills: The researcher will be expected to manipulate and enhance existing computer programmes written in Fortran, and also to produce new computer modules.
- Finite element modelling and implementation.
- Soil mechanics or related area of geo-engineering.

Desirable expertise:

- Knowledge of finite element regularisation methods for softening models.

The supervisors of the project are Dr. Ronald Brinkgreve (Plaxis) and Prof. Michael Hicks (TU Delft).

Conditions:

Candidates must be willing to travel abroad and relocate. **Special eligibility conditions**¹ apply for appointments under Marie Curie Actions. For more information about Marie Curie fellowships see: http://ec.europa.eu/research/mariecurieactions/careers_en.htm.

Application procedure:

Persons interested in this position are requested to send their application letter + CV to Dr. Ronald Brinkgreve (vacancies@plaxis.nl) before February 15th, 2010. Applications by female candidates are encouraged.

¹ **Experience:** ER (experienced researcher) means a person who has either over 4 years (full-time equivalent) of research experience since completing his/her undergraduate degree or has a doctorate. For these positions, the persons cannot have more than 10 years of research experience since their undergraduate degree.

Mobility: The researchers must not have resided or carried out his/her main activity in the country where the host institution is located for >12 months within the last 3 years prior to the appointment.