

Faculty of Engineering – Division of Materials, Mechanics and Structures

Dean of Engineering Prize (Fixed Term)

The University of Nottingham's Faculty of Engineering is one of the premier engineering faculties in the UK. The Faculty conducts research that has been recognised by the last Research Assessment Exercise as being world-leading or internationally excellent, placing Nottingham in the UK's top five universities for engineering. The Faculty is a vibrant and supportive environment and provides state-of-the-art experimental and computational facilities.

Applications are invited for a Dean of Engineering Prize in the Faculty of Engineering at the University of Nottingham to work on the project "**Development of a practical creep model for analysis of long-term deformation of earth embankments**" led by Dr Mohammad Rezaia. The successful candidate will be part of Nottingham Centre for Geomechanics (NCG) which has excellent laboratory and computational facilities and carries out research across key disciplines of geotechnical engineering. The project is aimed to further development, numerical implementation and experimental validation of a new constitutive model, based on non-stationary flow surface theory, to capture the delayed response of natural clay deposits under embankment loading.

The successful candidate will work within the NCG team of researchers engaged in constitutive modelling of geomaterials. The research will use numerical modelling as well as an experimental testing programme on creep properties of natural clay samples. The person appointed will be expected to play a key role in numerical model implementation and experimental validation of the new creep constitutive model. The successful candidate will also be supported by a PhD student for experimental work (whom they will be helping to supervise) and the NCG technical staff.

Candidates must hold a First Class Honours degree or equivalent in an engineering discipline, and will have completed (or about to obtain) a PhD (or equivalent) in Geomechanics or Computational Mechanics. The project aims to bring together researchers with both numerical and experimental backgrounds; hence candidates with research experience in computational geo/mechanics and experience in advanced laboratory element testing are encouraged to apply. The candidate should have proficiency in programming with Fortran and/or C++, and good working knowledge of soil mechanics, continuum mechanics, finite element analysis and constitutive modelling (particularly those belonging to the critical state family). Good written and verbal communication skills are also essential.

The award will cover a £25,000 per annum, tax free stipend, for 12 months, for a postdoctoral researcher **(UK/EU only), due to funding restrictions**. The researcher is expected to start no later than 1 March 2014.

For informal enquiries or formal applications, please send a CV, a covering letter stating how your interests and experience relate to the project, your academic transcripts and the names and email addresses of two academic referees to Dr Mohammad Rezaia, tel: 0115 951 3889, or email: mohammad.rezania@nottingham.ac.uk. **Please quote ref no: ENG/759. Closing date: 31 January 2014.**