

PhD to start in September 2012.

Engineering modelling of the progressive retreat of cliffs

Description of the position:

Morphological evolution of cliffs (natural and excavated slopes) is a traditional subject in geology to understand the evolution of the landscape. Modelling of the progressive retreat of cliffs has recently received considerable attention by the engineering community due to increasing coastal erosive processes caused by climate change and increased environmental awareness at national and European level. Coastal retreat is a problem particularly important for several countries in Europe (e.g. Italy, France). It is calculated that in the UK alone, 80% of the coast is subject to some form of erosion leading to coastal retreat.

The house insurance industry needs reliable models for the predictions of the amount of cliff retreat over time for residential buildings located in exposed areas whereas local authorities and decision makers need to know the level of risk faced by the public infrastructure (e.g. coastal roads, pedestrian footpaths, car parks, etc.).

The thesis may involve an analytical (based on limit analysis), numerical (based on the Discrete Element Method and Finite Element Method) and experimental (based on small scale tests run in the laboratory) part. Depending on the skills and preferences of the PhD student, some research avenues will be pursued over others.

The successful candidate will receive a tax-free stipend of £13,590 per year for 3 years.

University of Warwick is a research led university within the Russell group. The Department of Engineering was ranked 3rd in the UK in the latest Research Assessment Exercise (2008).

The deadline for applications is 25 April 2012

Candidates can submit their CV and a cover letter electronically by sending an email to: S.uti@warwick.ac.uk

For any information on the PhD, email: S.uti@warwick.ac.uk