

## **SLATE – Submarine landslides and Their impact on European continental margins**

The European Training Network SLATE funded by the European Commission in the frame of the Marie-Skłodowska-Curie program offers an

### **Early Stage Researcher position (duration of 36 month)**

in the area of geotechnical data statistical treatment for submarine slope stability in the frame of the project

#### ***Optimal characterization of marine sediments for submarine landslide investigation (ESR8)***

The Early Stage Researcher will be located and employed at the CONTROL Y PROSPECCIONES IGEOEST SL (Figueres, Spain). The candidate will be enrolled in the Doctoral program of Geotechnical Engineering and Geosciences at UPC (Polytechnic University of Catalonia) in Barcelona, Spain, as the purpose of the ESR project is research and training leading to the successful completion of a PhD degree.

#### **Project Description**

Geotechnical site characterization in submarine conditions has to deal, almost inevitably, with scarce data. Engineering key properties that are a direct input into stability analysis, such as undrained shear strength, are sometimes directly measured (e.g. by triaxial or DSS test on samples recovered from the seafloor), but most often are inferred from interpreted mechanical insitu test results (CPTu). Other data such as plasticity, grain size distribution or compaction state may be also used, through appropriate transformations, to obtain separate estimates of strength.

Joint evaluation of all these different information sources requires appropriate evaluation of test uncertainty (measurement error, transformation error) as well as consideration of a priori information such as collected worldwide or formation-specific databases. Bayesian sequential updating (BSU, Cao et al. 2016) is been proposed as a methodological basis to deal with this kind of problems.

The proposed PhD will investigate the benefits of BSU within the context of probabilistic submarine slope stability analyses.

We are searching for an enthusiastic and dynamic early career researcher who is interested in joining a multidisciplinary research team. Very good written and oral English language skills are required because the studies will be carried in an international program.

The applicant is expected to visit partners from the SLATE consortium in another European country for extended secondments of up to approx. 6 months and will have to participate in joint network-wide training activities, e.g. our joint annual workshop.

### Specific requirements:

- MsC level in geotechnical engineering, engineering geology, civil engineering or a closely related field
- Some familiarity with reliability analysis and/or statistical techniques will be a plus
- Basic knowledge in numerical modelling techniques, geotechnics or related topics
- Some skills in scientific computing (e.g inC++, Python, R...) and in visualizing numerical output (e.g. using MATLAB or GMT) would be helpful

The position is limited to a term of up to 3 years and funded by the European Commission with a monthly gross salary that will be in accordance with the EC Marie Skłodowska-Curie rates and will include a mobility allowance, and a family allowance where applicable. (For more information, please see: <http://ec.europa.eu/research/mariecurieactions/>).

There are no restrictions on nationality. However, to be eligible for employment according to EU mobility rules, candidates must match the definition of an Early Stage Researcher. Accordingly, ESR8 candidates must not have resided in Spain for more than 12 months in the 3 years immediately prior to recruitment. In addition, the mobility role of the EU pinpoints that the Early Stage Researcher shall at the time of recruitment by the host organisation, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree.

Applications should be submitted electronically under the reference number **SLATE-ESR8** as a single pdf document (max. 2 MB) to Prof Dr Katrin Huhn ([khuhn@marum.de](mailto:khuhn@marum.de)). Documents should include a letter of motivation, a CV, the applicant's research and technical background as they relate to the position, as well as two reference letters.

As the positions should be filled as the nearest possible date, the deadline for the application is **15<sup>th</sup> May 2017** or until the positions are filled.

After the successful passing of the written applications, shortlisted candidates will be invited to an interview which will take place at the MARUM, Universitaet Bremen, Germany. Please make sure you are available **from mid June to the first week of July 2017**.

The EU commission aims at increasing the number of women in science and therefore explicitly encourages applications from female candidates. In the case of equal personal aptitudes and qualification, priority will be given to disabled persons. In addition to the scientific education, the research training group supports families.

For further enquiries please contact

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