

## **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 (100% position for a duration of 36 months)**

in the area of mechanics and numerical modelling in the frame of the project

### ***Coupled modelling of landslide tsunamis using primitive fluid mechanics models (ESR14)***

The Early Stage Researcher will be located and employed at NGI (Norwegian Geotechnical Institute). The candidate will be enrolled at the Department of Mathematics at the University of Oslo (Norway). The purpose of the ESR project is research and training leading to the successful completion of a PhD degree.

### **Project Description**

Landslide tsunamis can cause large destruction. The tsunami generation from landslides involve complex flow mechanics. Examples comprise the violent impact caused by subaerial landslides and flank collapses, as well as the complex flow structures inside a submarine landslide. The ESR14 project will focus on developing new numerical models for understanding the complex interaction between the water body and the landslide, as well as how landslide stratification and development of shear bands govern the early formation of a tsunami.

The candidate will develop a primitive model that takes into account the coupled dynamics of a landslide tsunami. We foresee that the model development will be undertaken within open source systems such as OpenFOAM or similar. The coupled landslide-tsunami model will first be used to study processes related to the formation of tsunami generation from subaerial landslides and volcano flank instabilities, simulating both existing laboratory experiments as well as realistic cases. Furthermore, simulating complex internal flow structures inside landslides are envisioned. Available results from the laboratory may be utilized also here.

We are searching a positive early career researcher who is interested in joining a multidisciplinary research team. Good written and oral English language skills are required because the studies will be carried out in an international exchange 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:**

- Completed MSc or Diploma degree in Geophysics, Physics, Mechanics, Applied Mathematics or related fields.
- The candidate should have a strong background in mathematical and numerical modelling.
- The candidate is expected to demonstrate skills in programming and scripting

Moreover, experience in one or more of the following topics will be positively valued:

- Development of mathematical or numerical models for submarine landslides or avalanches
- Numerical modelling using OpenFOAM or similar software
- Experience with water wave models for tsunami applications
- Soil modelling; modelling flow of visco-plastic or granular materials.
- Background in geology and sedimentology

The position is limited to a term of up to 3 years and funded by the European Commission PhD Candidates are remunerated in code 1017, and are normally remunerated at gross €49,225 before tax.

The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see: <https://www.mn.uio.no/english/research/phd/application/application.html>

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, ESR14 candidates must not have resided in Norway 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-ESR14** as a single pdf document (max. 2 MB) to Prof. Dr. Katrin Huhn ([khuhn@uni-bremen.de](mailto:khuhn@uni-bremen.de)). Documents should include a letter of motivation, a CV, copy of grade transcripts, the applicant's research and technical background as they relate to the position, as well as a list of referees. As the positions should be filled as the nearest possible date, the deadline for the application is the **8<sup>th</sup> September 2017** or until the positions are filled.

After the successful passing of the written applications, shortlisted candidates will be invited to an interview that will take place at the NGI, Norway. Please make sure you are available **from the middle of September to end of October 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.

Further enquiries can be addressed to

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