

Post-doc Research Fellowship in Geophysics / Landslides

Title: Forecast of landslide intensity from remote sensing techniques and numerical modelling

A Post-doc fellowship is available financed by the Initiative of Excellence / University of Strasbourg in order to implement a prototype tool to forecast landslide intensity from the assimilation of remote sensing observations and numerical modelling. The objective is to analyse the statistics of rainfall-controlled landslides (number, size, deformation pattern) for specific regions and triggering events and to develop a hydrological – mechanical model to estimate landslide properties from meteorological forecasts. The post-doc position will require strong expertise in remote sensing techniques (optical, radar), advanced statistics, and numerical modelling.

Objectives of the Post-doc Fellowship:

- 1) Operate remote sensing techniques to detect, map and quantify landslide properties from optical and SAR data, with a focus on relevant use cases either affected by extreme (Caribbean area, Indian Ocean, Ethiopia) or moderate (Alpine Massif) rainfall events. Remote sensing tools developed at the host laboratory (e.g. MPIC, ALADIM) will be used, tested and operated as a service for the selected regions.
- 2) Develop and implement a simple hydrological – mechanical model to define landslide thresholds and estimate landslide intensity (size, displacement) from meteorological forecasts.
- 3) Implement an operational database and Decision-Support-System in order to communicate the forecasts.

Supervision: The Post-doc will be formally supervised by Dr. Jean-Philippe Malet and Dr. Clément Hibert (Unistra/EOST) and Dr. Anne Puissant (Unistra/LIVE).

Location: The work will be carried out at University of Strasbourg (France) at the School and Observatory of Earth Science Department – Institute of Earth Physics. Visits to the project partners at NASA / Goddard Space Flight Centre (D. Kirchsbaum) and at BRGM / French Geological Survey (G. Grandjean) are scheduled.

Requirements: Ph.D in geophysics with strong experience in remote sensing (optical and radar) and in numerical modelling. Strong aptitude in programming (Python) and in the use of calculation clusters is needed. Communication methodologies and aptitude for interdisciplinary research are recommended. Excellent knowledge of the English language is crucial. Knowledge on landslides is recommended but not compulsory.

Starting date: October 1st, 2018 (some flexibility is possible).

Conditions of employment: The appointment will be given in reference to the rules of University of Strasbourg. The fellowship duration is 24 months (with possible extension) at a rate of around 2600 € gross per month. Priority to non-French nationality candidates will be given as requested by the IDEX procedure.

Contact persons: Interested persons should contact and send their application (curriculum vitae, short statement of research interest and addresses of three referees) to Dr. Jean-Philippe Malet (jeanphilippe.malet@unistra.fr). Selection of the applicant will be performed on a competitive basis.

Please note that the official **application deadline is 2018, June 15**, so interested applicants should establish contact as soon as possible.