

Postdoctoral position: Visco-plastic modeling of granular flows

Institut de Physique du Globe de Paris (IPGP)

The Seismology Group at Institut de Physique du Globe de Paris is pleased to invite applications for the position of a postdoctoral researcher in numerical modeling of viscoplastic flows for an initial period of 1 year with the possibility of an extension. The successful applicant will develop a personal research profile in the field of mechanical behavior of granular materials. The objective is to compare numerical modeling of granular flows with existing laboratory experiments in order to develop models for further application to landslide simulation. The work will be at the interface between mechanics and geophysics thanks to the close collaboration with Ioan Ionescu at University Paris 13 and with François Bouchut, LAMA. The post-doctoral fellow will participate in the research activities of the environmental seismology working group. These activities range from numerical and experimental modeling of granular flows and natural landslides to seismic monitoring of environmental sources (landslides, volcanoes, glaciers, ocean waves, cavities, ...). See <http://www.ipgp.fr/~mangeney/Research.html> for more details.

This work is part of large projects funded by the Research French Agency and the PRES Sorbonne Paris Cité. The aim is to better understand and quantify the static/flowing transition in granular flows and the erosion processes observed when granular flows travel over erodible beds. The post-doctoral work, mainly focussing on visco-plastic numerical modeling, will imply collaboration in the field of experimental granular flows and natural landslide observation.

Institut de Physique du Globe de Paris is a leading research institute in geophysics with specialists in fluid mechanics, seismology (<http://sismo.ipgp.fr/>), volcanology and computational sciences. This highly dynamic setting enables students and researchers to work with up-to-date methods in the different fields in close connection with surrounding laboratories in mechanics and applied mathematics.

Required knowledge and skills: Requirements for the position are a doctoral degree with experience in numerical modeling of granular (or viscoplastic) flows. Skills in advanced computing and programming would be appreciated.

Salary and term: Salary is in accordance with French public service rate (about 2600 euros/month). The position is scheduled starting from September 2014.

Application procedure: Applications including curriculum vitae, list of publications, research statement, names and e-mail addresses of two referees should be sent to Professors Anne Mangeney and Ioan Ionescu by e-mail mangeney@ipgp.fr and ioan.r.ionescu@gmail.com. Review of applications will begin in June 2014 and will continue until the position is filled.