

Clermont-Ferrand, December 1, 2017

## **Post-doctoral position at UCA (full time, 12 months renewable for 12 months)**

University Clermont Auvergne is offering a 24-month post-doc position in probabilistic approaches in volcanology, based in Clermont-Ferrand, France.

The candidate will contribute to the research project "Risks of natural disasters and socio-economic vulnerability" IDEX/I-SITE CAP 20-25 funded by the French government since 2017 (<http://i-site-clermont.fr/>). The research challenge is interdisciplinary, headed by the Laboratoire de Mathématiques Blaise Pascal (LMBP, <http://math.univ-bpclermont.fr/>) and the Laboratoire Magmas et Volcans (LMV, <https://lmv.univ-bpclermont.fr/fr/>), two leading research centres at the University Clermont Auvergne in Clermont-Fd, France.

Explosive volcanic eruptions commonly release considerable amounts of ash into the atmosphere. Ash falls may have a dramatic impact on populations and infrastructures, particularly in emerging or developing countries. In this context, predicting the extent and the thickness of fall deposits is crucial for better estimating volcanic hazards and related risks. These parameters can be determined from models that account for ash dispersal into the atmosphere and settling on the ground. The zones potentially threatened by ash falls can be investigated quantitatively using probabilistic approaches, and bayesian statistics to calibrate the models, which take into account possible ranges of input parameters. Noticeably, the integration of human hazard assessment should be integrated in the process. The aim of this project is thus to combine open source codes of ash dispersal with probabilistic methods to investigate ash fall deposits potentially generated by some explosive volcanoes in Andean countries, one of the geographic target zones of the CAP 20-25 projects on risks and natural disasters.

The candidate selected will analyse past eruptive parameters of some target volcanoes, will define the most appropriate probabilistic approaches, and bayesian modelisation of a priori knowledge on the target volcanoes, and will combine them with open source codes of ash dispersal, and will analyse simulated deposits in perspective of hazards assessment. Possible analysis of associated risks will be performed, if time permitted, through hazard maps integrating economical and/or social risk, essential to communicate to decision makers. The candidate should have a solid background in quantitative volcanology, and experience in probabilistic approaches will be highly appreciated.

The full-time position is available for a duration of 12 months renewable for 12 months. The salary will be approx. €2,000 per month, and the selected candidate will benefit from health insurance and social coverage.

### **Online applications only, till 31<sup>st</sup> of January 2018**

Candidates must apply by sending the following documents to [arnaud.guillin@uca.fr](mailto:arnaud.guillin@uca.fr) and [olivier.roche@uca.fr](mailto:olivier.roche@uca.fr) (same contacts for further information) with in the subject "Postdoctoral application":

1. A detailed curriculum vitae with a list of publications.
2. A motivation letter exposing the understanding of the position, of the tasks and required skills.
3. Two recommendation letters / Two references.

Fully completed applications only will be examined by the research challenge / project Executive Committee. An equal opportunity policy in recruitment is applied and University Clermont Auvergne is committed to the European HRS4R policy.