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Analyses of ‘Mountain-Risks’: doctoral and post-doctoral research projects in risk prediction, management and governance.

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The ‘Mountain Risks’ Project intends to develop an advanced understanding of how mountain hydro-geomorphological processes behave and to apply this knowledge to long-term cohabitation with such hazards. ‘Mountain Risks’ is a Marie Curie Research and Training Network supported by the European Commission. The project supports the scientific work of several young researchers, at the doc and post-doc level, around a collaborative programme. This programme of work associates state-of-the-art experimental, methodological and computational advances, as well as risk management strategies, for quantitative hazard and risk analysis.

The objective of this contribution is to present the main research themes addressed by

the young researchers within the project in respectively:

(1) Progress in hazard analysis. This research theme addresses the prediction of crises of large landslides with detailed hydro-mechanical modelling, the development of imaging techniques for mountain hazard assessment, the development of early warning systems at both short and long term scales, and the analysis of hazards and risks associated to clay-rich landslides.

(2) Progress in Quantitative Risk Assessment (QRA). This research theme addresses the development of quantitative hazard and risk analyses including economic evaluation by GIS techniques, the development of improved methodologies for rockfall hazard and risk mapping at regional and local scales.

(3) Progress in risk management. This research addresses the use of remote sensing techniques for landslide hazard assessment and risk management, and the development of methods for rockfall risk management.

(4) Progress in risk governance. This research theme addresses the implementation of risk governance principles in assessment and management of mountain risks.

The methodological framework, study sites and preliminary results of each research projects will be presented for open discussions with the conference attendees.