

## **Integrated analysis of rockslides in the geodynamic active setting of the Pre-Alps**

*(Proposer: Prof. Dario Zampieri)*

The tectonically active mountain ranges of the Veneto-Trentino Pre-Alps are experiencing an accelerated human pressure by development of infrastructural projects. Although there have been occasional mass movements of destructive impact in the past, the short history of human settlements in the Alps makes it difficult to properly evaluate the potential hazard during future development of narrow valleys. In this context, the understanding of the predisposing factors of rockslides from the steep slopes is crucial for adoption of appropriate active and passive countermeasures and evaluation of the acceptance of risk. Rock-mass strength is highly influenced by the weakest unit within the rock mass and by the density, orientation, and spatial distribution of bedrock fractures or discontinuities. In addition, geological structures such as folds and faults play a critical role in the stability and behaviour of natural rock slopes, while the seismic shaking is one of the main causes of triggering the rockslides.

The study of some selected earthquake-triggered rockslides, which dammed the valleys, will involve seismic characterization of the area, structural analyses of the slopes, geophysical investigations, stratigraphic analyses of some borehole cores and possibly dating (radiocarbon, exposure and luminescence dating) of the events.

The ideal candidate may have a strong interest in fieldwork, the application of remote sensing and GIS processing tools, and dating techniques.

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