

Nicky Young

Studying earthquake history and mechanisms around L' Aquila, Italy 2009

Nicky is an undergraduate in Earth Science at St Peter's College, Oxford and will visit the site of the disastrous earthquake at L'Aquila in the Italian Apennines to study the local geology, especially tephra deposits, with a view to better understanding of the slip rates and ages of previous movements on the Paganica fault. The work will include in-situ gamma ray spectrometry and will be carried out in conjunction with INGV.

Below is a summary of Nicky's trip followed by some photos.

*Geomorphological Studies of Active Faulting and Seismic Hazard in the Apennines of Italy.
Dominique E. Young.*

The devastating earthquake of April 6th 2009 at L'Aquila in the central Apennines of Italy occurred on the Paganica fault that was previously thought to be less active than those surrounding due to its subdued topography, and thus construed to pose minimal risk to local populations. The objective of this study was to quantify the throw rate on the Paganica fault through optically stimulated luminescence (OSL) data of tephra samples in order to compare the results with published throw rates on other faults in the area.

Satellite imagery and digital elevation models were used to interpret the surrounding fault patterns and a field visit was made to conduct the OSL measurements.

The results of this study have confirmed with independent data that the Paganica fault is now the main fault in the area accommodating seismic strain deficit.



(i) On the Paganica fault scarp with Nicola D'Agostino



(ii) Nicky sampling for optically-stimulated luminescence ages in the footwall of the Paganica fault.



(iii) (From Left) Nigel Press, plus colleagues from the Istituto Nazionale di Geofisica e Vulcanologia, Nicky in the middle and representatives from the Italian Civil Protection Agency.