UNIVERSITÀ DEGLI STUDI DELL'AQUILA

Dipartimento di Ingegneria Civile, Edile-Architettura e Ambientale

Earthquake Landslide Hazards

Visit of Dr Fernando Della Pasqua, GNS Science, New Zealand

to DICEAA, University of L'Aquila

L'Aquila, July 15-17, 2014

In collaboration with:

INGV (Istituto Nazionale di Geofisica e Vulcanologia) - L'Aquila,

USRC (Ufficio Speciale per la Ricostruzione dei Comuni del Cratere) – Fossa (AQ)

Organization:

Geotechnical (Monaco, Simeoni, Totani) and Engineering Geology (Tallini) Groups

Coordination and information:

Lucia Simeoni: lucia.simeoni@univaq.it

Programme:

Tuesday, July 15th

9.00-13.00: Welcome to the DICEAA, visit to downtown L'Aquila (by Simeoni, Monaco, Amoroso)

Lunch

15.00-17.00: Seminars on Earthquake landslide hazards (DICEAA)

Ground effects induced by the 2009 L'Aquila earthquake: mapping of phenomena and residual risk assessment for the post-event emergency management.
Dr Giorgio Pipponzi, USRC (Fossa – AQ)

Canterbury Earthquakes 2010/11 Port Hills Slope Stability and Hazard Assessment.
Dr Fernando Della Pasqua, GNS Science, New Zealand

Wednesday, July 16th

9.30-10.30: Visit to the Geomatic Laboratory of DICEAA downtown L'Aquila (by Dominici)

11.00-13.00: visit to INGV-L'Aquila. Seminars:

Site effects, seismic microzonation and ground response analysis in Abruzzo Region
Unità di Ricerca 7 – INGV (Giuliano Milana, Giuseppe Di Giulio, Maurizio Vassallo, Sara Amoroso, Deborah Di Naccio, Luciana Cantore)

Site characterization by seismic dilatometer test (SDMT) in Christchurch (New Zealand)
Sara Amoroso (INGV) and Paola Monaco (UnivAQ)

Lunch

Afternoon: Field trips to landslide sites nearby l'Aquila (by Pipponzi)

Thursday, July 17th

All day: Field trips to landslide sites in the Gran Sasso area (by Totani)

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Seminars on

Earthquake landslide hazards

July 15, 2014, 15.00-17.00

15.00- 16.00: Ground effects induced by the 2009 L'Aquila earthquake: mapping of phenomena and residual risk assessment for the post-event emergency management.

Dr Giorgio Pipponzi, USRC (Fossa – AQ)

16.00- 17.00: Canterbury Earthquakes 2010/11 Port Hills Slope Stability and Hazard Assessment.

Dr Fernando Della Pasqua, GNS Science, New Zealand

Dr Giorgio Pipponzi, PhD
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Dr Fernando Della Pasqua,
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Canterbury Earthquakes 2010/11 Port Hills Slope Stability and Hazard Assessment

Dr Fernando Della Pasqua, GNS Science, New Zealand

This study brings together recent field information to assess the risk to people in dwellings. Following the 22 February 2011 Christchurch earthquakes, extensive cracking of the ground occurred in some areas of the Port Hills.
In many areas, the cracks were thought to represent only localised relatively shallow ground deformation in response to shaking. In other areas, however, the density and pattern of cracking and the amounts of displacement across cracks clearly indicated large mass movements.
These investigations assess the nature of the hazard, the frequency of the hazard occurring, and whether the hazard could pose a risk.
The main types of landslide hazard identified are debris avalanches, debris flows and cliff-top recession.
The strength of the rock mass forming the slopes has been reduced as a result of the earthquakes. Possible failure volumes triggered by future earthquakes may now be larger than any that fell during the 2010/11 Canterbury earthquakes; and they could be more similar in size to past relic failures identified from slope morphology.
The results show that the most critical uncertainty in the risk assessment is the volumes of material that could be generated at different bands of peak ground acceleration.