

1 Post - Active tectonics and major seismicity in Central Italy

Excursion Leaders: Stefano Gori⁽¹⁾, Paolo Galli⁽²⁾, Alberto Pizzi⁽³⁾, Luca Guerrieri⁽⁴⁾, Paolo Boncio⁽³⁾, Fabrizio Galadini⁽¹⁾, Emanuela Falcucci⁽¹⁾, Edoardo Peronace⁽⁵⁾, Marco Mancini⁽⁵⁾, Federica Polpetta⁽⁵⁾, Paolo Messina⁽⁵⁾, Anna Maria Blumetti⁽⁴⁾, Alessandro Maria Michetti⁽⁶⁾, Franz Livio⁽⁶⁾, Riccardo Civico⁽¹⁾, Valerio Comerci⁽⁴⁾, Marco Moro⁽¹⁾, Michele Saroli⁽⁷⁾, Giandomenico Fubelli⁽⁸⁾, Luigi Piccardi⁽⁵⁾, Tiziano Vittori⁽⁴⁾, Pio Di Manna⁽⁴⁾, Deborah Maceroni⁽¹⁾.

(1) INGV- Istituto Nazionale di Geofisica e Vulcanologia, (2) Dipartimento della Protezione Civile Nazionale (3), Università degli Studi "G. d'Annunzio"Chieti, (4) ISPRA – Istituto Superiore per la Protezione e Ricerca Ambientale, (5) CNR – Consiglio Nazionale delle Ricerche, (6) Università degli Studi dell'Insubria, (7) Università degli Studi di Cassino e del Lazio Meridionale, (8) Università degli Studi di Torino, (9) Università degli Studi Roma Tre

Proposed Excursion Dates: 21th-23th July 2023

Draft Itinerary: Roma - Norcia – Castelluccio di Norcia - Roma

Definitive cost per head: € 350

Minimum number of participants: 12

Maximum number of participants: 25

Accommodation arrangements: Hotel

Proposer Contact Details:

Stefano Gori

Institution and Address: Istituto Nazionale di Geofisica e Vulcanologia – Via di Vigna Murata 603, 00122 Roma

Phone: **+39 3392602536**

Email: stefano.gori@ingv.it

Paolo Galli

Phone: **+39 3204326133**

Email: paolo.galli@protezionecivile.it

Description

Central Italy is affected by a number of normal faults, manifestation of the extensional tectonic regime affecting the Apennine chain. Normal fault activity throughout the Quaternary caused the formation of intermontane tectonic depressions hosting continental deposits, which geologically “recorded” long and short term fault movements. Central Italy major seismicity, both historical and instrumental, characterized by earthquakes with magnitude of up to 7, is related to the activation of some of the major active normal faults. Examples of this are earthquakes that in 1703 (M 6.9) and in 2016 (M 6.5) struck a vast area of the central Apennines causing widespread destruction. These events also caused a plethora of environmental effects, among which metre-scale surface faulting, whose traces are still visible in the landscape. The field trip will bring the participants in the Norcia basin, affected by the fault responsible for the 1703 event. The geological evidence of late Quaternary activity of the fault will be shown as well as the traces of its late Holocene activation events. Then, the field trip will

move just east, along the Mt. Vettore fault, that nucleated the 2016 earthquake, to show the participants the evidence of surface faulting occurred along the structure.



Surface faulting caused by the 30th of October 2016 Mw 6.5 seismic event along the Mt. Vettore fault.