



IAG/AIG-WG-TG Summer School 2016 on “Alps vs Apennines: Tectonic Geomorphology of Mountains ”

*Italy: Western Alps (Peveragno, CN) – Central Apennines (Assergi, AQ)
July 2-9, 2016*

SECOND CIRCULAR



Aim and scope

The IAG-WG-TG Summer School 2016 is a training schools for students and early career scientists involved in tectonic geomorphology studies. It aims to offer a comprehensive overview of pioneering techniques, innovative and multidisciplinary approaches for meeting the growing needs of knowledge on both long term tectonic uplift and sudden geomorphological changes.

The Summer School includes lectures (2 days), laboratory and field activities (4 days). A group of expert teachers from different countries will present the state of the art on Morphotectonics and related methods (thermochronology, dynamic topography, geomorphometry and geomorphological mapping, radar

interferometric applications, crustal mobility and seismotectonics, neotectonics and slope instabilities). Case studies from a diversity of geomorphotectonic environments will be analyzed and discussed. A rich program of field activity will be developed both in the Western Alps, symbol of a long-term evolution orogen, and in central Apennine, where recent seismic activity (L'Aquila earthquake, 2009) caused casualties, damages and sudden geomorphological changes.

Summary of the context

The scientific debate on long-term tectonic uplift phenomena and sudden geomorphological changes is of overall great importance within Earth Sciences. Topics such as:

- uplift evaluation methods: thermochronology, geomorphometry, geodesy, geodiversity of tectonic processes and contexts;
- seismotectonic processes, structures and related landforms: structural geology and geomorphology, paleoseismology, seismology;
- slope instabilities and related risks: engineering geology, modelling, geothematic mapping

have been discussed in several separate sessions during the past conferences.

The need of interdisciplinary and field based formation lead the IAG-WG on Tectonic Geomorphology to this Summer School proposal. The Italian partners of IAG-WG offered the locations for encompassing most of the summer school topics in mountain contexts of higher geodiversity.

Venue

Department of Earth Sciences, University of Turin, Italy.

Organizing Committee

Marco Bacenetti - Università degli studi di Torino, Italy; **Marta Della Seta** - Università di Roma "La Sapienza", Italy; **Emanuela Falcucci** - INGV, Istituto Nazionale di Geofisica e Vulcanologia, Italy; **Paola Fredi** - Università di Roma "La Sapienza", Italy; **Giandomenico Fubelli** - Università degli studi di Torino, Italy; **Fabrizio Galadini** - INGV, Istituto Nazionale di Geofisica e Vulcanologia, Italy; **Marco Giardino** - Università degli studi di Torino, Italy; **Stefano Gori** - INGV, Istituto Nazionale di Geofisica e Vulcanologia, Italy; **Luigi Perotti** - Università degli studi di Torino, Italy; **Francesco Troiani** - Università di Roma "La Sapienza", Italy; **Andrea Wolter** - ETH Zürich

Scientific Committee

John Clague - Simon Fraser University, Burnaby, Canada; **Tim Davies** - University of Canterbury, Christchurch, New Zealand; **Monique Fort** - Paris Diderot University, France; **Paola Fredi** - University of Roma "La Sapienza", Italy; **Fabrizio Galadini** - INGV, Istituto Nazionale di Geofisica e Vulcanologia, Italy; **Marco Giardino** - University of Turin, Italy; **Efthimios Karymbalis** - Harokopio University of Athens, Greece.

Invited speakers

Doug Burbank, UCSB, USA
Monique Fort, Paris Diderot University, France
Yann Rolland, Nice University
Michele Morelli, ARPA-Piemonte, Italy
John Clague, Simon Fraser University
Ben Van Wik de Vries, Univ Blaise Pascal, Clermont-Ferrand, France
Andrea Festa, DST-UniTO, Italy
Francesco Dramis, UniRoma Tre, Italy
Zbigniew Zwolinski and Alicja Najwer, AMU, Poland

Summer School Secretariat

Giandomenico Fubelli, Luigi Perotti - Department of Earth Sciences, University of Turin, Via Valperga Caluso, 35, 10125 Turin, Italy (tel. +390116705213; fax +39.0116708398; e-mail: giandomenico.fubelli@unito.it; luigi.perotti@unito.it)

Auspices

The Summer School is organized under the auspices of:

International Association of Geomorphologists (IAG)
Associazione Italiana di Geografia Fisica e Geomorfologia (AIGeo)
Università degli Studi di Torino
Università "La Sapienza", Roma
Istituto Nazionale di Geofisica e Vulcanologia (INGV)

Programme

Saturday, July 2, 2016:

arrival of participants in **Turin**, registration, icebreaker reception. Meeting point H: 18.00 at Department of Earth Sciences, Via Valperga Caluso 35, Turin. The accommodation in Turin is not included, please provide by yourself.

Sunday, July 3, 2016:

H: 8.00- H 18.00

Leader: **Marco Giardino, Fabrizio Piana.**

Field trip from Turin to the Ligurian Alps.

Departure by bus/minibus, h 8.00 from Department of Earth Sciences, Via Valperga Caluso 35, Turin.

Arrival at Peveragno at 18.00. Dinner and overnight at Formont, Centro operativo Centro Congressi della Provincia di Cuneo – Peveragno (CN) Via G.U. Luigi Massa, 6.

Monday/Tuesday July 4-5, 2016:

lectures and laboratory activity in Formont - Peveragno. Breakfast, lunch, dinner and overnight at Formont, Centro operativo Centro Congressi della Provincia di Cuneo.

Monday 4

H: 9.00- H 11.00

Doug Burbank, UCSB, USA–

Lecture 1: Tectonic geomorphology of mountains: principles, methods, and milestones: examples on morphotectonics.

H: 11.00- H 13.00

Monique Fort, Paris Diderot University, France –

Lecture 2: Himalaya: key-studies on morphotectonics.

Lunch break

H: 14.30- H 16.30

Yann Rolland Nice University –

Lecture 3: Chronological uplift evaluation methods.

H: 16.30- H 18.30

Michele Morelli, ARPA-Piemonte, Italy –

Lecture 4: Radar Interferometric applications for geomorphometry.

Tuesday 5

H: 9.00- H 11.00

John Clague, Simon Fraser University –

Lecture 5: Crustal mobility, neotectonics and large slope instabilities.

H: 11.00- H 13.00

Ben Van Wik de Vries, Univ Blaise Pascal, Clermont-Ferrand, France –

Lecture 6: Interaction of endogenetic and exogenetic processes on stability.

Lunch break

H: 14.30- H 15.30

Andrea Festa, DST-UniTO, Italy –

Lecture 7: Structural patterns and tectonic history of the Apennines.

H: 15.30- H 16.30

Francesco Dramis, UniRoma Tre, Italy –

Lecture 8: Geomorphology of the Apennines.

H: 16.30- H 18.30

Zbigniew Zwolinski and Alicja Najwer, AMU, Poland –

Lecture 9. Geomorphometry and Geomorphological Mapping.

Wednesday, July 6, 2016:

transfer to Central Italy and L'Aquila urban trip

Breakfast at H: 7.00 and departure at H: 8.00 to L'Aquila. Lunchbox provided. Arrival in L'Aquila at H: 17.00.
H: 17.00- H 20.00

Leader: **Fabrizio Galadini**

L'Aquila urban trip: The L'Aquila city center will be visited. The effects of the 2009 earthquake on the buildings, monuments and churches will be illustrated, and framed in the urban-architectural setting of the city derived from the 1703 seismic sequence.

Arrival in Assergi (AQ) at H: 20.00. Dinner and overnight.

Thursday, July 7, 2016:

Breakfast at H: 7.00 and departure at H: 8.00

H: 9.00 - 17.00

Leader: **Tommasso Piacentini, Marco Giardino, Luigi Perotti**

Geomorphological mapping in the Gran Sasso area. Geomorphological setting of the Campo Imperatore area, principles of geomorphological field mapping, including new technology applied on field survey. Lunchbox provided.

H: 17.00 - 20.00

Leader: **Marta Della Seta, Carlo Esposito**

Tour on the L'Aquila rock avalanche. Two relevant stops on the huge clastic deposit on which the city of L'Aquila was built, the body of a rock avalanche detached from the southern slope of the Gran Sasso Range. Lunchbox provided.

Arrival in Assergi at H: 20.00. Dinner and overnight.

Friday, July 8, 2016:

Breakfast at H: 7.00 and departure at H: 8.00

H: 9.00 - 13.00

Leader: **Emanuela Falcucci, Stefano Gori**

Analysis and interpretation of outcrops (or paleoseismological trench walls) showing extensional faults the offset Quaternary continental deposits. Methodological issues concerning paleoseismological analysis will be illustrated by the teachers and practiced by the participants.

Lunchbox provided.

H: 14.00 - 18.00

Leader: **Emanuela Falcucci, Stefano Gori**

The morphotectonic setting of the middle Aterno river valley and of the Subequana valley will be illustrated. In particular, the relationship between the Quaternary geomorphic evolution of these intermontane depression will be examined in relation with the long term activity of the major fault systems of the area. Outcrop of the planes exposed at the basis of the active fault scarps will be visited.

Arrival in Assergi at H: 19.00. Dinner and overnight.

Saturday, July 9, 2016:

Breakfast at H: 7.00 and departure at H: 8.00

H: 09.00 - 17.00

Leader: **Giandomenico Fubelli, Marta Della Seta**

Large scale landscape evolution in active tectonic context.

The excursion preview several stops, moving from L'Aquila Basin to the Gelasian in age paleoshoreline along the Cicolano and Fara Sabina Mounts, passing the intermontane tectonic basin of Rieti, following the PaleoFarfa River.

Arrival in Rome (Railway Station Roma Termini, or/and Fiumicino Airport) at H: 17.00.

Farewell party at H: 20.00 in **Rome**.

The accommodation in Rome is not included, please provide by yourself.

Summer School Fees

(including material, travels, accommodation and meals)

Early bird payment (before April 29, 2016)

Participants

650 € (single room*), 600 (double room)

Full payment (April 30 to June 15, 2016)

Participants

800 € (single room*), 750 (double room)

*Availability of single rooms is limited.

Participants are required to pay the fees by bank transfer (**see the attached registration form**)

Deadlines

Early bird registration

April 29, 2016

Full registration

June 15, 2016

How to reach Turin

Torino International Airport: <http://www.aeroporto.torino.it/en>

High speed railway: <http://www.trenitalia.com/tcom-en>

Final programme

The final programme will be issued on June 23.

Further information may be found on the IAG WG on Tectonic Geomorphology website and Facebook page:

www.geomorph.org/wg/wgtg.html

https://www.facebook.com/giandome73/?ref=aymt_homepage_panel