

From Science to Safety: Meeting Engineering Needs with Earth Science

Tbilisi, Georgia

Hilton Garden Inn Chavchavadze

Main Conference Room

October 1-3, 2024

1 October (Tuesday)

Opening Ceremony (09:00-09:30)

09:00-09:05 Opening remarks (T. Godoladze)

09:05-09:30 Welcoming remarks (N. Daborjginidze, S. Adamia, Z. Javakhishvili)

Keynote Addresses (09:30-10:30)

09:30-09:45 Cooperation in science (E. Vergino and R. Gök)

09:45-10:15 Seismic hazard and risk (T. Onur)

10:15-10:45 Overview of the seismic structure in the Caucasus (E. Sandvol)

10:45 -11:00 Coffee Break

Geology and Tectonics in the Caucasus and Central Asia (11:15-13:00)

11:00-11:30 Postcollisional Geodynamics, Tectonics and Seismicity of Georgia (S. Adamia)

11:30-11:45 Tectonic overview of Central Asia (K. Abdrakhmatov)

11:45-12:15 Neotectonics of the Anatolian Scholle (C. Zabcı)

12:15-12:45 The need for geological studies in assessing earthquake hazards in assessing earthquake hazards in Central Asia and in the South Caucasus (R. Walker)

12:45-13:00 Geomorphology of a meandering bedrock river system in an active tectonic zone (R. Torres)

13:00-14:00 Lunch

Seismic Structure in the Caucasus and Central Asia (14:00-16:30)

14:00-14:15 Seismic cooperation in the Caucasus and Central Asia (A. Chiang)

14:15-14:30 Petrogenesis, mantle source characteristics and temporal/spatial evolution of the collision

related Late Miocene to Recent volcanism across Anatolia and Lesser Caucasus (M. Keskin)

14:30-15:00 Earthquake location improvement in the Caucasus using CNET data (J. Nabelek)

15:00-15:15 Shear wave splitting and upper mantle anisotropy in the Caucasus (L. Martinetti)

15:15-15:30 Understanding the significance of active tectonics in the Lake Sevan Basin, Armenia (A. Avagian)

- 15:30 -15:45** **Coffee Break**
- 15:45-16:00 Attenuation structure of the Caucasus (A. Buzaladze)
- 16:00-16:15 Far-field deformation of the 2023 Kahramanmaraş earthquake revealed by space geodesy (S. Ergintav)
- 16:15-16:30 PySolate: A Python-based Thresholding Tool to De-noise or De-signal Seismic Waveforms based on the Continuous Wavelet Transform (A. Aguiar)
- 16:30-18:00** **Poster Session (see below)**
- 19:00-21:30** **Reception Banquet (TBD)**

2 October (Wednesday)

Seismic Hazard, Risk and Building Codes (09:00-18:00)

- 09:00-09:30 Regional models and overview (T. Onur)
- 09:30-10:00 Vs30 databases for Based Seismic Zonation of Georgia (D. Akubardia)
- 10:00-10:30 Vs30-Based seismic zoning of the Baku Urban Area (E. Garaveliyev)
- 10:30 -11:00** **Coffee Break**
- 11:00-11:30 Relocation of seismicity in Caucasus and Central Asia (I. Bondar)
- 11:30-11:45 Coda-envelope based moment magnitudes (L. Barama)
- 11:45-12:15 Caucasus and Central Asia PSHA results (T. Onur)
- 12:15-12:45 Determination of local site effects in Antakya Basin with data obtained from microtremor measurements and earthquake records (O. Ozel)
- 12:45-13:00 Implementing new correlations between seismic intensity, structural damage, and microtremor observations to construct a new approach on intensity formula in Southeastern Turkey (N. Özel)

13:00-14:00 **Lunch**

Hazard and Engineering (14:00-16:30)

- 14:00-14:30 Safety evaluation of buildings designed according to seismic code of Georgia (I. Timchenko)
- 14:30-15:00 Implementation of EuroCode 8 in Georgia (I. Urushadze)
- 15:00-15:30 Using PSHA results in seismic codes in Central Asia (P. Aminzoda)
- 15:30-15:45** **Coffee Break**
- 15:45-16:15 Modeling GNSS Velocities to constrain active tectonics and fault slip rates in the Caucasus region (J. Freymueller)
- 16:15-16:30 Geology data into seismic hazard (G. Boichenko)
- 16:30-16:45 Seismicity of Azerbaijan (S. Kazimova)
- 16:45-18:00** **Poster Session (see below)**

3 October (Thursday)

Best Practices and Advances in Monitoring (09:00-12:00)

09:00-10:30 Overview of regional seismic monitoring (~10 minutes each)

1. Seismic Monitoring in Armenia (G. Babayan)
2. Seismic Monitoring in Azerbaijan (T. Jaferov)
3. Seismic Monitoring in Georgia (M. Tserodze)
4. Seismic Monitoring in Kazakhstan (A. Mukambayev)
5. Seismic Monitoring in Kirgizstan (A. Berezina)
6. Seismic Monitoring in Tajikistan (S. Murodkulov)
7. Seismic Monitoring in Turkey (N. Ozel)

10:30-11:00 Coffee Break

- 11:00-11:30 Seismic network expansion in Caucasus and Central Asia (SNECCA) (A. Chiang)
- 11:30-12:00 Network maintenance information strategies for the SNECCA project (K. Aderhold)
- 12:00-12:30 Application of geological, volcanological and seismic data for geothermal energy exploration: the case for Armenia (K. Meliksetian)

12:30-13:00 Closing remarks (T. Godoladze)

13:00-14:00 Lunch

14:00-15:30 SNECCA and CCT Discussions

15:30-15:45 Coffee Break

15:45-16:30 SNECCA and CCT Discussions

1 October (Tuesday) Poster Session

1. Integrating disciplines for slope stability: geology, remote sensing and modeling (G. Merebashvili)
2. Modeling and hazard assessment of the 2014 May 17 debris flows event of the Devdoraki gorge in the Central Greater Caucasus, using Rapid Mass Movement Simulation (RAMMS) (S. Gogoladze)
3. Determination of volcanic ash layers source of Easter Caucasus Neogene Basin: evidence from Zircon U-Pb geochronology and geochemistry (R. Gabrielashvili)
4. Geophysical survey in civil engineering (D. Tsiklauri)
5. Development of Spatial Data Infrastructure (SDI) on climate and associated natural hazards (G. Babayan)
6. Complex application of geophysical and engineering geological methods in a landslide body for the analysis of structural characteristics and reduction of landslide risk (Tumanyan Landslide, Armenia) (G. Babayan)

2 October (Wednesday) Poster Session

1. Enhancing the seismic database of the Caucasus through the digitization of legacy bulletin data for hazard assessment (T. Rostomashvili)
2. Moment tensor solutions for recent earthquakes of Georgia (L. Ratiani)
3. Deformation field of the Main Caucasus Fault in the Eastern Part of Georgia using GNSS (Z. Tavadze)
4. Recent developments of the seismic network of Georgia (R. Vardoshvili, E. Lazariashvili)
5. M_w 7.0 Central Asia earthquake on January 22, 2024 (A. Berezina)
6. Challenges and approaches for seismic source characterization of crustal faults in data-poor regions (B. Gray)