

SESSION 04- Enhancing Earthquake Education: Innovative Approaches and Educational Seismology Tools for Schools and Communities

Conveners

Dr. Alexandra Moshou, School of Civil Engineering Democritus University of Thrace, amoschou@civil.duth.gr

Dr. Gerassimos Chouliaras, Institute of Geodynamics, National Observatory of Athens, g.choul@noa.gr

Dr. Marios Papaevripidou, Specialist Teaching Fellow of Science Education Department of Educational Sciences, University of Cyprus, mpapa@ucy.ac.cy

Thodoris Karafyllidis, University of Cyprus, tkaraf01@ucy.ac.cy

With an emphasis on scientific thinking, building social resilience, and encouraging awareness of natural hazards for students and citizens, educational seismology is a quickly emerging field that integrates geosciences with education. A comprehensive framework of educational methods involving the use of open data, contemporary seismology tools, and experiential learning methodologies is the objective that the proposed action intends to develop, implement, and assess.

Through the use of school seismographs, digital platforms for seismic data analysis, and basic physics experiments that mimic seismic phenomena, the proposal focuses on developing educational contributions that encourage active student participation. As "young researchers," students are encouraged to collect real data, analyze it, and present the results in class. Simultaneously, interdisciplinary content is integrated that connects seismology to geology, physics, technology, and civil protection.

Enhancing scientific literacy and knowledge of seismic risk is the focus, along with developing abilities like data analysis, critical thinking, and making decisions under uncertainty. Through workshops, public presentations, and partnerships with local governments and civil protection organizations, the initiative plans to reach not only students and educators but also the municipalities and civil protection agencies.

Both qualitative and quantitative methods, including questionnaires, interviews, and learning outcome analysis, will be used to assess the impact of the implementation. The proposal is to encourage the creation of a common educational seismology model that can be used and modified for use in various social contexts and educational systems.

Therefore, educational seismology is an essential tool for comprehending natural processes and encouraging an earthquake-prevention and preparedness culture.

