



## Session 42

### Earthquake Early Warning: Current status and progress towards operational systems

Conveners:

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There is a growing number of operational Earthquake Early Warning (EEW) systems at a global level, though in Europe the transition from demonstration to operations has generally stalled, both for public and industry specific systems. This is happening despite the recent occurrence of earthquakes in the wider region where a functioning EEW could have had a significant impact. Efforts to build global EEW systems based on smartphones do operate today in Europe but their effectiveness is still not demonstrated. Although fast and stable EEW performance is becoming routine, there is space for improvements. Fundamental research is necessary to understand the preparatory and nucleation phases of earthquakes; refined models of the earthquake source and wave propagation are needed to provide realistic impact forecastings; innovative technologies, including low-cost sensors, seismic arrays, fibre-optic cables, remain to be integrated in EEW algorithms; and end-users and stakeholders need to be prepared to receive well-conceived messages and properly respond to an alert. We solicit contributions on any topic related to EEW that can inform and in particular accelerate the path to operational EEW (worldwide and in Europe), including:

- innovative technologies and improvements to existing monitoring networks that will enhance EEW
- development of refined algorithms suitable to the diverse seismicity across Europe
- development of alert dissemination technologies;
- description of end-to-end EEW systems and case studies, especially across Europe
- cost-benefit analyses and social science studies that will inform and justify future EEW
- status/progress of EEW development around the world

