



## Session 25

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### Seismological and geophysical investigation for imaging shallow geological structures and site-specific seismic hazard applications: challenges and perspectives

#### **Conveners:**

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There is an increasing need for high-resolution imaging of shallow geological structures as well as characterization of their physical properties. This stems not only from purely scientific perspectives, but also from correct land planning in areas subject to a wide range of environmental risks, including seismic hazard. In this regard, seismological and geophysical techniques represent a cost-effective tool for achieving a deep understanding of subsurface structures. The improvement of such imaging techniques is related to the growing computational capability in the solution of inverse problems (e.g., big data management, machine learning), and to the theoretical development of new modelling algorithms.

The aim of this session is to collect the most recent results of seismological and geophysical imaging of shallow crustal structures in a wide range of environmental applications, including also discussions on methodological challenges and new perspectives. Among their countless applications, we seek contributions on seismic hazard and seismological engineering problems (including site effects and ground shaking amplification), as well as study of fault zones at different scales (crucial in the analysis of seismic sources, surface faulting hazard assessments, tectonic geomorphology, and fluids flow), fracture networks (in reservoirs, volcanic areas and geothermal fields), landslides (from shallow fractured rock masses to deep-seated sliding surfaces).

We encourage submitting works dealing with multi-disciplinary methods together with new developments in data processing, imaging strategies and field acquisition layouts.