



Session 20

Characterizing building's response: combined perspective from engineering and seismology for risk reduction

Conveners:

Chiara Scaini¹, Bojana Petrovic¹, Maria Rosaria Gallipoli², Filomena de Silva³

¹ *National Institute of Oceanography and Applied Geophysics - OGS, Borgo Grotta Gigante, 42/c, 34010 Sgonico (TS), Italy*

² *Italian National Research Council, Institute of Methodologies for Environmental Analysis (CNRIMAA), 85050 Tito Scalo (PZ), Italy*

³ *Department of Civil Environmental and Architectural Engineering - University of Naples Federico II, via Claudio 21, 80125, Naples (NA), Italy*

Understanding better the structural characteristics of the built environment (buildings/strategic structures/infrastructures/urban areas/cities) is of crucial importance for both the Engineering and Seismological communities.

This session aims to bring together these two communities and create a platform for discussion and exchange concerning the characterization of the built environment and its interactions with the soil. We welcome contributions from all aspects of studies on buildings, including, but not limited to: building dynamic behavior, soil-structure/city interaction effects, damage assessment, seismic vulnerability and exposure, and risk assessment/reduction. We believe that empirical data and numerical modeling practices can mutually benefit from each other and contribute to a better characterization of the interaction between soils and structures in case of earthquakes. For this reason, we particularly encourage contributions that emphasize the role of empirical measurements (e.g. earthquake and noise recordings) on structural prototypes or actual buildings and soil in characterizing the expected response under earthquakes. We also seek to hear from those installing new networks/arrays (that might include both classical seismological networks or other technologies, e.g. Distributed Acoustic Sensing) and compiling new datasets and public databases of building/soil data, and to discuss exciting new possibilities for applications.

Submissions can include both general perspectives and case studies that contribute to identifying current gaps and potential developments in the field. Novel approaches will be greatly appreciated and will have a chance to be shared and made visible among the engineering and seismological community.