

SEPT. 21-27, 2023
CHENGDU, CHINA

The XIV Congress of the International Association for Engineering Geology and the Environment



Session 3-4

Characterizing and Modelling the Effects of Surface Geology on Earthquake-Induced Ground Shaking

Conveners



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Brief Introduction of the Session:

The Earth's near surface - the top few hundred meters of the crust - has a profound impact on the earthquake waves that travel through it, despite making up a mere fraction of the entire path from the source to the observation site. The impact, known as "site effects" or "site amplification", is critical to predicting and mitigating the devastating social and economic consequences of future earthquakes and ultimately saving lives. However, site effects involve a complex array of physical processes - linear stratigraphic effects, soil nonlinearity, and surface and subsurface topographic effects. This site effects exhibit significant spatial, spectral, and/or temporal variations. Hence it remains a global challenge to accurately and precisely quantify site effects at target sites/regions without recordings of historical earthquakes.

In this session, we cordially invite studies on site characterization (e.g., geological, geotechnical and geophysical surveys) and site effect estimation using statistics- or physics-based methods or emerging techniques (e.g., ML). Topics of interest include but not limited to:

- earthquake or ambient-noise-based velocity structure inversion;
- search of optimal site characterization proxies to improve site-response models;
- novel approaches to evaluate the attenuation of wave propagation;
- spatial and temporal correlation/variation in site effects;
- city- or regional-scale site amplification mapping and uncertainty quantification;
- complex site effects, e.g., soil nonlinearity, and 2D/3D site effects;
- opportunities and challenges in the application of ML; and
- regional or global database development.



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IMPORTANT DATES



Abstract for Oral Presentation and
Poster Submission Deadline

Jun. 30, 2023



Early Bird Registration Deadline

Aug. 10, 2023



Online Registration Deadline

Sept. 21, 2023

SUBMISSION

For the full-length submission

The submission system is now open for full-length papers. The deadline for submission of full-length paper has been extended to May 31, 2023. Please read the guidelines for paper submittal prior to submitting your full-length paper.

Please read the guidelines prior to submitting your full-length paper or long abstract at <https://www.iaeg2023.org/cfp.html>

For the abstract submission

The abstract submission system for oral presentations and posters is open! If you would rather prepare an abstract for an oral or poster presentation, rather than submitting a full paper, please submit your abstract for consideration by June 30, 2023.

Please read the guidelines prior to submitting your abstract at <https://www.iaeg2023.org/cfa.html>



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