



Session 33

Advances in single station and array methods for subsurface characterization onshore and offshore

Conveners:

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The use of ambient seismic noise has significantly increased over the last decades. Controlled source signals are also widely used and can complement ambient noise measurements. Taking advantage of the large wavelength range of these signals, the subsurface structure can be investigated in a broad depth range from few meters to several hundreds of meters. The analysis of the subsurface structure of the Earth is a necessary step towards mitigating natural hazards such as earthquake, landslide, instable rock slopes, or non-linear site behavior such as liquefaction. However, the approach is not limited to the Earth's solid surface, but can also be applied in marine or lake environments, on the Lunar surface or, on Mars. We invite contributions that address single-station and/or array data modeling, processing and applications.

Methods may range from:

1. Single-station methods, e.g. microtremor horizontal-to-vertical (H/V) spectral ratio, ellipticity estimation, receiver functions, transfer functions;
2. Array methods using single- or multi-component data processing (passive or active sources), e.g. frequency-wavenumber, spatial autocorrelation, Multichannel Analysis of Surface Waves (MASW), Interferometric-MASW;
3. Any combination of (1) and (2) and innovative techniques.

Methods based on the Diffuse Wavefield approach or using cross-correlation techniques are also welcome, as well as any contribution concentrating on the inversion of any of the aforementioned methods on any depth-scale range.