Special Issue

New Trends in Ground Response Analysis and Liquefaction Assessment

Message from the Guest Editor

Strong shaking triggers hysteretic energy dissipation and plastic volumetric–distortional coupling; in loose saturated sands excess PWP can lead to liquefaction. Accurate modelling of this nonlinear, cyclic soil response is essential for predicting ground motion and mitigating damage to dams, ports, bridges and pipelines. This Special Issue solicits high-quality papers on recent advances in ground-response analysis and liquefaction assessment, including: nonlinear large-strain constitutive models and limits of equivalent-linear approaches; excess-PWP generation and dissipation simulations; strength–stiffness compatibility; post-liquefaction re-liquefaction and settlement; case histories with detailed site characterization; experimental validation of numerical schemes; and regional semi-empirical indices under medium-intensity shaking where simplified methods are most debated. Contributions from academia and industry that critically review current practice and outline future research directions are warmly welcomed.

Guest Editor

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