SOIL DYNAMICS AND EARTHQUAKE ENGINEERING

Aims and Scope

The journal aims to encourage and enhance the role of mechanics and other disciplines as they relate to earthquake engineering by providing opportunities for the publication of the work of applied mathematicians, engineers and other applied scientists involved in solving problems closely related to the field of earthquake engineering and geotechnical earthquake engineering.

Emphasis is placed on new concepts and techniques, but case histories will also be published if they enhance the presentation and understanding of new technical concepts.

Fields Covered

* Seismology and geology relevant to earthquake engineering problems with emphasis on modeling and methodologies rather than case studies.
* Wave propagation, wave scattering and dynamic crack propagation in soils and rocks under elastic or inelastic material behavior.
* Dynamic constitutive behavior of materials.
* Dynamic interaction problems (soil-structure interaction, fluid-structure interaction, tsunamis).
* Seismic analysis and design of steel and reinforced concrete structures, retaining walls, dams, slopes.
* Effect of moving loads on bridges and pavements and vibration isolation in geotechnical structures.
* Inverse problems, identification and structural health monitoring in earthquake engineering.
* Instrumentation and experimental methods in earthquake engineering.
* Applied mathematical methods for earthquake engineering analysis and design.
* Numerical methods (mainly finite elements and boundary elements) for linear and non-linear earthquake analysis and design.
* Performance-based seismic design of structures.
* Probabilistic methods in earthquake engineering including risk analysis and reliability.
* Earthquake case histories and lessons learned from catastrophic ground motions.