GEOMECHANICS FOR ENERGY AND THE ENVIRONMENT

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DESCRIPTION

The aim of the Journal is to publish research results of the highest quality and of lasting importance on the subject of geomechanics, with the focus on applications to geological energy production and storage, and the interaction of soils and rocks with the natural and engineered environment. Special attention is given to concepts and developments of new energy geotechnologies that comprise intrinsic mechanisms protecting the environment against a potential engineering induced damage, hence warranting sustainable usage of energy resources.

The scope of the journal is broad, including fundamental concepts in geomechanics and mechanics of porous media, the experiments and analysis of novel phenomena and applications. Of special interest are issues resulting from coupling of particular physics, chemistry and biology of external forcings, as well as of pore fluid/gas and minerals to the solid mechanics of the medium skeleton and pore fluid mechanics. The multi-scale and inter-scale interactions between the phenomena and the behavior representations are also of particular interest. Contributions to general theoretical approach to these issues, but of potential reference to geomechanics in its context of energy and the environment are also most welcome.

The purpose of the Journal is to foster scientific understanding of various processes in geomaterials, both induced by technology and natural, and their relationship to the underlying mechanisms. The intrinsic nature of coupling of chemical, biological, thermal and mechanical properties, variables and fields distinguishes the related problems from those in classical geomechanics. Thus, emphasis is placed on the development and fusion of fundamental concepts in mechanics, physics, geochemistry and geo-biology and applications of such concepts to novel technologies related to geological energy production and storage as well as to the prevention of the damage to the environment, in which solid and fluid mechanics of geomaterials is of relevance.

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