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Numerical Analysis of Rock Mechanics and Crack Propagation

Guest Editors:

Dr. Daobing Wang

Dr. Fujian Zhou

Dr. Bo Wang

Dr. Jie Wang

Deadline for manuscript submissions:
closed (30 November 2023)

Message from the Guest Editors

Dear Colleagues,

Within the context of the exploration and development of tight reservoirs, such as shale oil, coal bed methane, deep shale gas, deep and ultra-deep carbonate or sandstone rocks, and hot dry rocks, hydraulic fracturing has become a key technique for stimulating hydrocarbon production from these reservoirs. Crack propagation during hydraulic fracturing involves rock deformation, fluid flow in hydrofractures, heat transfer between fluid and rock, and fracture mechanics, among other phenomena, thus representing a very complex multi-physical problem. Some microcrack initiation and propagation occurs due to the chemical and physical interaction in hydraulic fracturing. Numerical simulation is thus a very powerful tool to solve the complex hydraulic fracturing problems in tight reservoirs.

This Special Issue aims to present the most recent advances related to the numerical analysis of rock mechanics and crack propagation during the hydraulic fracturing of tight reservoirs.

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Editor-in-Chief

Prof. Dr. Steve W. Lyon
School of Environment and Natural Resources, Ohio State University, Columbus, OH 43210, USA

Message from the Editor-in-Chief

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Sustainability Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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