

Innovative Methods in Understanding Groundwater Flow in Fractured Rock Reservoirs



CALL FOR PAPERS

Fractured rocks constitute adequate drinking water reservoirs due to the fact that fractures enhance the productivity of wells. However, these fractures can also lead to potential contamination paths because groundwater flow and solute transport are preferentially channeled through them. From a hydrogeological point of view, a better characterization of fractured rock reservoirs is a key issue in understanding these complex systems and to propose reliable predictions.

In order to build and calibrate conceptual flow and transport models, hydrogeologists often rely on scarce data which they compare to the modeled area and heterogeneity and on their expertise including prior knowledge about fractures. However, such approaches largely rely on extrapolation and subjective considerations which, in turn, might impact interpretation. The challenges lie in both finding informative data to map, understand, and monitor groundwater flow and solute transport in fractured areas, as well as in the development of modeling techniques (analytical or numerical; deterministic or stochastic) to simulate physical processes and predict fractures pattern.

This special issue welcomes both original research and review articles presenting innovative tools and methods to identify, characterize, and image or represent fractured rock aquifers and reservoirs and to better understand, monitor, and model groundwater flow and associated processes. We also encourage authors to emphasize the use of geophysical data as hard data for hydrogeological modelling. In addition, we encourage the submission of multidisciplinary works and case studies aiming at investigating the complexity of fractured rock aquifers and reservoirs.

Potential topics include but are not limited to the following:

- ▶ Preferential groundwater flow paths in fractured rock aquifers and reservoirs
- ▶ Physical and chemical behaviors of contaminated water, geothermal fluids, and tracers in fractured aquifers and reservoirs
- ▶ Innovative methods, including geophysical techniques and flow and tracer experiments, for characterizing geofluid flow paths
- ▶ Innovative methods to integrate geofluid flow path information (such as fracture patterns and geophysical data as hard data) in groundwater flow models

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/geofluids/itump/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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