Special Issue

Research on Tunnel Water Inrush: Mechanisms, Prediction and Mitigation

Message from the Guest Editors

In recent years, the phenomenon of tunnel water inrush has become a critical issue in geotechnical engineering and hydrogeology. The study of tunnel water inrush and the implementation of effective prediction and prevention measures are imperative and have garnered substantial attention both domestically and internationally. However, the mechanisms of tunnel water inrush and stability analyses require further investigation through diverse methodologies, research subjects (such as the interaction of geological formations with water), and comprehensive data.

- The interaction of geotechnical bodies with water, changes in mechanical properties, and prediction of tunnel water inrush using applied geophysics techniques such as the electrical method and induced polarization;
- The evaluation of tunnel stability under hydrogeological conditions and the prediction of water inrush events during tunnel boring machine (TBM) operations, including the prevention of TBM card machine scenarios;
- The prediction of tunnel water inrush volume;
- The impact assessment of water inrush hazards under varying geological conditions and measures for disaster prevention and mitigation.

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

Editor-in-Chief

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