



Numerical Analysis on Concrete and Rocks

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Message from the Guest Editors

The knowledge of the mechanics of the concretes and rocks is not only important for the buildings aboveground but is also beneficial to underground works in the field of geotechnical and mining engineering. Related projects include slopes, shafts, tunnels, radioactive waste disposal, open-pit mines and underground mines, etc. Thanks to the rapid development of computer techniques, numerical analysis has now been largely adopted to tackle the problems and verify the theories in the aforementioned domains, which would have been impossible a few years before. Today, the application of numerical methods in exploring the mechanisms of the mechanical behavior of building materials (such as concretes and rocks) continues to evolve and attract attention and is worthy of further study.

The Special Issue aims to gather original research work related to the numerical analysis of the concretes and rocks utilized in various building structures. Contributions focusing on innovative numerical algorithms, numerical implementation of constitutive models, computer modelling of lab tests and application of numerical models in engineering works are most welcome.





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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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