Special Issue

Research on Innovative Technologies for Theory, Design, Construction, and Maintenance of Building Engineering and Underground Spaces in Extreme Environments

Message from the Guest Editors

This Special Issue is guided by the needs of major engineering construction, focusing on the research of core theories and key technologies such as multi-dimensional information perception and multi-field coupling mechanisms of rock and soil under harsh conditions; prediction and prevention of extreme environmental rock and soil; tunnel engineering disasters; green intelligent construction of ultra-long tunnels; large-scale rock and soil engineering; intelligent maintenance and operation disaster prevention; and soil and tunnel engineering. This Special Issue seeks studies that propose new theories, methods, and technologies; discuss the development of new materials, equipment, and processes; and propose innovative technologies that run through the entirety of the industry chain, ranging from theory and design to construction and maintenance. We look forward to your submissions.

Guest Editors

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About the Journal

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.

Editor-in-Chief

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