Special Issue

Research on Key Technologies for Green Construction and Safe Operation and Maintenance of Tunnels and Underground Engineering

Message from the Guest Editors

Dear colleagues, With the continuous acceleration of urbanization, the requirements for rapid and green transportation are increasing. The superiority of tunnels in transportation construction is receiving increasing attention, and the number and scale of constructions are growing explosively. Traditional construction and operation concepts struggle to meet the safety and comfort needs of transportation. Driven by multiple composite factors such as the "dual carbon" target, national land space, urban renewal, resilient cities, smart infrastructure, and new quality productivity, the importance and challenges of tunnel and underground space planning, construction, operation safety, and energy conservation and environmental protection are increasingly prominent. This Special Issue encourages all professionals, researchers, managers, and planners engaged in the construction, operation, and maintenance of civil engineering, tunnels, and corresponding underground engineering to share their work.

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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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