

Innovation of Materials and Technologies in Civil Construction

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Message from the Collection Editors

Dear Colleagues,

In recent years, tunnel construction and technology have developed rapidly. In tunnel construction in underwater, high cold and high-altitude areas, due to complex geological conditions and other challenges, high-performance new materials and new technologies are needed. Compared with tunnels constructed using a tunnel boring machine (TBM) and drilling and blasting method under good geological conditions, due to the difficulty of construction, tunnels in these extreme environments face complex problems, such as super large diameter tunnel construction technology in high-intensity areas, slurry treatment and waste soil recycling of slurry shield tunnels, environment-friendly tunnel construction technology and materials, etc. Therefore, further research is needed to solve the problems related to new materials and technologies in order to improve the construction of tunnels.

This Special Issue aims to publicize the speculation and development of new materials in tunnels, as well as important technical applications. This Special Issue welcomes and invites original research and review articles on the application and construction of new tunnel materials.



Editor-in-Chief

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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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