Special Issue

Failures in Underground Engineering Structures: Material Fatigue, Natural Disaster Impacts, and Other Factors

Message from the Guest Editors

As infrastructure development advances, large and complex undertakings such as mountain transportation projects, grand hydropower stations, inter-basin water transfers, extensive mines, nuclear power plants and nuclear waste treatment projects have become the predominant forms of existing underground construction. Hindered by the complexity of environmental conditions and the uncertainty of human operations, it remains challenging to achieve instant monitoring and immediate protection of structural health across diverse subterranean projects. This Special Issue zeroes in on innovative practices and applications related to underground engineering structures in the realms of material fatigue, design, fabrication, installation, inspection, operation, maintenance, lifespan prediction, failure prevention, risk evaluation, reliability analysis, sustainability, procedural enhancement, structural integrity, safety assessments and quality assurance. We look forward to your contributions!

Guest Editors

Dr. Peng He
Dr. Jie Xiao
Prof. Dr. Jie Hu

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Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

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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

Prof. Dr. David Arditi
Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

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