Special Issue

Safety and Optimization of Building Structures

Message from the Guest Editors

Ensuring the safety of a building's erection, load-bearing, and enclosing structures is the most important task both for its engineering, science, and practice of design and its operation. At the same time, an important aspect is the development of design and optimization methods. The goals of such optimization can be focused not only on material or cost consumption but also the risks of accidents. Preventing risks related to the material and socioeconomic losses are the main priorities and matters of urgency, and new modern scientific research and practice will allow us to move forward in addressing them. The main goal of the Special Issue "Safety and Optimization of Building Structures" is to provide a platform for discussing the main problems associated with ensuring the mechanical, fire, and environmental safety of load-bearing and enclosing structures of buildings. In these circumstances, it is important to consider the life cycle stages of a structure, the development of deterministic and metaheuristic optimization algorithms that ensure sustainable development, and the required level of comfort of a building's internal environment.

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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.

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