Special Issue

Mechanical Performance Analysis of Metal Structures (Steel and Aluminum) and Connections

Message from the Guest Editors

This Special Issue focuses on the Mechanical Performance Analysis of Metal Structures (Steel and Aluminum) and Connections within building structures. With growing demand for lightweight, durable, and sustainable solutions, steel and aluminum are increasingly used in cladding, facades, roofing, framing, and modular systems. Studies on sustainable construction materials such as recycled concrete, ecofriendly bricks, or alternative systems demonstrating good mechanical behavior are also welcomed. Both experimental and numerical studies offering design insights or practical innovations are encouraged. This Special Issue provides a platform for advancing performance-based design and responsible construction using metal systems and beyond.

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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