

Performance and Design of Building Steel Structures

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Message from the Guest Editors

The scope of this Special Issue covers a wide range of topics in the field of performance and design of steel structures. These include, but are not limited to:

- Structural analysis of buildings steel structures, including traditional, innovative solutions and modular structures, etc.;
- The behaviour of thin-walled, cold-formed and 3D-printed steel structures and elements;
- Assessment of the robustness of structural systems in relation to uncertainties, such as extreme loading conditions, environmental factors, seismic risk, material degradation and design errors, etc.;
- New approaches in the design of steel structures, components and elements with limit state approaches based on performance, capacity or plastic design;
- Experimental and numerical studies on steel structures, understanding complex structural behaviours, validating analytical models and verifying theoretical approaches;
- New types of steel and composite steel–concrete elements, including beams, columns, joints and built-up sections.

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Special Issue

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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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