



Performance Analysis of Steel Structure in Construction

Guest Editors:

Dr. Antonio Agüero

Department of Continuous
Medium Mechanics and Theory of
Structures, Universitat
Politècnica de València, 46022
Valencia, Spain

Prof. Dr. Ivan Baláž

Department of Metal and Timber
Structures, Faculty of Civil
Engineering, Slovak University of
Technology in Bratislava, 811 05
Bratislava, Slovakia

Dr. Yvona Koleková

Department of Structural
Mechanics, Faculty of Civil
Engineering, Slovak University of
Technology in Bratislava, 811 05
Bratislava, Slovak

Deadline for manuscript
submissions:
closed (31 December 2023)

Message from the Guest Editors

Metal structures are widely used in the construction of buildings and bridges. Steel has a high strength-to-weight ratio, which leads to slender structures. In order to properly design slender structures, local and global buckling analysis must be taken into account, considering equivalent geometric imperfections, residual stresses and nonlinear geometric and material behaviour. This analysis can be performed either numerically using finite element analysis with solid, shell or beam elements or experimentally in order to ensure the safety of the structures.

This Special Issue seeks high-quality papers considering the behaviour of steel structures, their stability, mechanics, design and testing, reliability, non-linear analysis, thin-walled structures, cold-formed structures, hot-rolled and welded sections, plate and shell structures. State of the art papers are also welcome.

For further reading, please follow the link to the Special Issue Website at:

https://www.mdpi.com/journal/buildings/special_issues/420X830H47



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

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, and other databases.

Journal Rank: JCR - Q2 (*Engineering, Civil*) / CiteScore - Q1 (*Architecture*)

Contact Us

Buildings Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/buildings
buildings@mdpi.com
[X@Buildings_MDPI](https://twitter.com/Buildings_MDPI)