

Non-linear Behavior and Design of Steel Structures

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Message from the Guest Editors

Modern steel structures with aesthetic geometry and high-strength materials are rapidly proliferating. The influence of non-linear structural behaviors is becoming the predominant problem in the design of these structures. The conventional design method, based on linear analysis with many simplified design assumptions, can lead to either conservative or unsafe design. To this end, there is an urgent need to develop and promote advanced analysis and design methods for steel structures, with consideration for the various buckling failure modes, initial imperfection, joint stiffness, and so on, in the non-linear analysis process rather than in the design stage. This Special Issue aims to seek and promote the latest advances in analysis and design approaches for steel structures. The theme is broad and open in scope, covering all aspects of structural engineering. High-quality and original research papers relating to stability, connection, testing, non-linear analysis, design, and construction method are welcomed.

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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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