

Special Issue

Mechanical Properties of Advanced Metal Structures in Civil Infrastructure

Message from the Guest Editors

A variety of advanced metal materials have been applied to enhance the safety and durability of the building and bridge structures under the action of earthquake, fire, moving loading, impact, corrosion, etc. Unlike low-alloy mild steel, these metal materials exhibit different mechanical properties, probably leading to different mechanical behavior and responses for the components and structures. In order to boost the application of these advanced metal materials into civil structures, this Special Issue, entitled “Mechanical Properties of Advanced Metal Structures in Civil Infrastructure”, aims to reveal the basic mechanical characteristics of these metal materials and to develop advanced numerical simulation techniques, analysis methods, and design theories for the corresponding joints, members, and structures. Both original research articles and reviews are welcome. Topics of interest will cover, but are not limited to, the following aspects: (1) Monotonic and cyclic constitutive models; (2) Buckling behavior; (3) Seismic resilience; (4) Fire resistance; (5) Fatigue cracking mechanism and strength; (6) Machine-learning-based evaluation and design method.

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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