Special Issue

Performance Evaluation, Testing and Design of Composite Structures

Message from the Guest Editor

As the global population grows, the need for high-rise buildings and long-span bridges increases. These structures must withstand immense gravity and lateral loads, making high-capacity structural members crucial. Composite members, made from multiple materials, offer exceptional strength, ductility, and toughness, making them ideal for civil engineering applications. This Special Issue calls for papers exploring the fabrication, analytical/numerical/experimental studies, and design/applications of high-performance composite structural members in civil engineering. Topics include physical, mechanical, and structural properties, behavior under various loads, and their use in civil infrastructures. Examples of subject areas that are considered suitable for this Special Issue include, but are not limited to: Behavior of composite beams, columns, frames, shear walls, and other special structural elements; Analysis of double and multi-skinned composite structural members; Development of novel composites/composite fabrications; Rehabilitation, retrofitting, and performance enhancements of existing composite elements/structures; Fire and corrosion resistance, etc.

Guest Editor

Dr. Eric M. Lui

Department of Civil & Environmental Engineering, Syracuse University, Syracuse, NY 13244-1240, USA

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closed (30 May 2025)

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Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

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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

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

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