

Special Issue

Dynamic Response of Composite or Biomimetic Structures Under Impact/Blast Loading

Message from the Guest Editors

Modern structures are increasingly subjected to extreme dynamic loads, such as impacts, explosions, and shock waves, which pose significant threats to their integrity and safety. Composite and biomimetic materials, with their superior energy absorption, lightweight properties, and tailored mechanical performance, offer promising solutions for impact and blast-resistant designs. However, understanding their dynamic behavior under such extreme conditions remains a critical challenge for structural safety and performance.

This Special Issue seeks groundbreaking research and innovations in the dynamic analysis of composite and biomimetic structures under impact and blast loadings. Key research areas include:

- Experimental and numerical investigations of impact/blast effects on advanced materials
- Energy absorption and dissipation in bio-inspired and layered structures
- Damage assessment and durability evaluation under repetitive dynamic loads
- Protective design strategies, including metamaterials and adaptive structures
- Machine learning and AI-driven approaches for predicting impact/blast resistance
- Design optimization of composite structural systems for combined impact-blast resistance

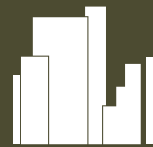
Guest Editors

Dr. Lingzhao Meng

Dr. Zefang Wang

Dr. Ming Zhang

Dr. Jun Gong



Buildings

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.4



mdpi.com/si/249791

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

[mdpi.com/journal/
buildings](https://mdpi.com/journal/buildings)





Buildings

an Open Access Journal
by MDPI

Impact Factor 3.1
CiteScore 4.4



[mdpi.com/journal/
buildings](https://mdpi.com/journal/buildings)



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

Author Benefits

High Visibility:

indexed within SCIE (Web of Science), Scopus, Ei Compendex, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Construction and Building Technology) /
CiteScore - Q1 (Architecture)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.1 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the second half of 2025).