

Special Issue

Bio-Inspired Strategies for Sustainable Architecture, Engineering and Construction

Message from the Guest Editors

Modern industrial cities consume large amounts of energy, prompting designers to adopt innovative strategies to reduce carbon footprints. Observing and adapting natural processes offers growing potential. Since ancient times, humans have learned from nature, discovering principles such as spirals, fractals, and patterns. Recently, detailed studies of organisms and their adaptations have increased across scientific fields. This Special Issue, "Bio-Inspired Strategies for Sustainable Architecture, Engineering and Construction," focuses on biomimetic structures, façades, and bio-based materials that respond to climate change, aiming to provide an interdisciplinary platform and set new standards for sustainable construction. The following are some of the topics proposed for the Special Issue (not an exhaustive list):

- Buildings inspired by nature;
- Biomimetic structures;
- Biomimetic materials;
- Facades and materials capable of responding to rapid climate change;
- Adapting to environmental changes.

Original papers that address related topics are also encouraged. Papers will be published after acceptance, following a full peer-review process.

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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

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).