Special Issue

Eco-Innovative Envelope Systems – New Approaches to Sustainable Buildings

Message from the Guest Editors

Energy efficiency, durability and sustainability are major concerns in different areas. The construction sector, particularly with regard to buildings, significantly impacts energy consumption and the increase in green gas emissions. As such, the building envelope constitutes an important element in the thermal response of the whole building. The durability increase of envelope systems also directly contributes to reducing the carbon footprint by extending their service life. This Special Issue focuses on the most recent developments in envelope systems, such as new building materials, advanced envelope components, and adaptative solutions, from a sustainable and green perspective. Topics include (but are not limited to):

- Eco-innovative insulating materials;
- Nanotechnology applicable to building envelopes;
- High reflective and cool materials;
- Hygrothermal performance;
- Adaptative envelope systems;
- Energy efficiency in buildings;
- Durability and life cycle assessment of eco-innovative solutions.

For scholars interested to submit papers to the Special Issue, please click "Submit to Special Issue" or contact Astoria Yao: astoria.yao@mdpi.com.

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Deadline for manuscript submissions

closed (31 January 2025)

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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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