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Thermal Performance of the Building Envelope—Original Methods and Advanced Solutions

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Deadline for manuscript submissions:
closed (31 March 2024)

Message from the Guest Editors

This Special Issue encourages contributions regarding the latest research results, as well as good practice examples, about an improved thermal behavior of the building envelope based both on experimental studies and on numerical simulation. Both original research papers and review papers are welcome. Topics of interest include but are not limited to:

- Techniques to measure heat losses in building components;
- Advanced solutions for thermal bridge correction;
- Hygrothermal performance of building materials;
- Mould growth: risks and solutions;
- Thermal inertia of the building envelope;
- Cool materials in buildings;
- Green roofs and green walls;
- Super insulating materials (i.e., vacuum insulation panels, gas-filled panels, and aerogel-based products);
- Nature-based and raw materials for the building envelope;
- Advanced transparent envelope components.

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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.

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