

Green and Sustainable Building Materials

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Message from the Collection Editors

Dear Colleagues,

The construction sector is responsible for a significant share of global waste production and for a large consumption of raw materials and energy.

In recent years, targeting the sustainability of the construction sector, researchers, official organizations and related industries have been working on the development of innovative solutions to address the identified problems. These solutions can involve different approaches, such as: implementing methodologies of life-cycle cost analysis including environmental variables; the production of more durable and less energy consuming materials; the use of constructive detailing in new buildings allowing for future deconstruction, reuse and recycling of materials and components; developing more efficient recycling techniques; conceiving HVAC systems based on ecological solutions and improving insulation systems; or developing rehabilitation techniques to prolong old buildings' lifespans.

The main purpose of this Topical Collection is to attract world-leading researchers in the area of Green and Sustainable Building Materials and to share their latest developments.



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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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