

Special Issue

Engineered Wood and Bamboo Composites in Hybrid Buildings

Message from the Guest Editor

In the last decade, significant advancements in manufacturing processes, coupled with environmental concerns about the carbon footprint of cement and steel production, have driven the use of sustainable composite products made from renewable resources such as wood, bamboo, and natural fibres in buildings. Research studies have shown the great potential of wood, bamboo, and their composite products with steel and concrete in the construction of tall hybrid buildings. Although the results of such studies are very promising, there are certain aspects—such as fire, connection, durability, and the long-term performance of hybrid systems—which require further investigation in order to make tall-building construction with renewable resources a feasible alternative. The aims of this Special Issue are to (i) highlight advances in development of sustainable composite products that can be used in conjunction with other structural materials for high-rise construction, and (ii) address challenges in the design and analysis of hybrid systems.

Guest Editor

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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.

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