Special Issue

Advanced Alternative Aggregates for Sustainable Composite Materials

Message from the Guest Editors

The construction industry is currently facing a paradigm shift driven by the urgent need for environmental sustainability and the circular economy. As natural resources become increasingly scarce, the development of "Advanced Alternative Aggregates for Sustainable Composite Materials" has emerged as a critical field of research. It aims to explore innovative solutions, replace traditional natural aggregates with recycled, manufactured, or byproduct-based alternatives in cementitious composites.

We invite contributions that address the characterization, processing and performance of these alternative aggregates. Key topics include, but are not limited to, construction and demolition waste, industrial byproducts and plastic waste. A particular focus will be placed on evaluating the durability, mechanical properties, and environmental impact of these materials.

By gathering cutting-edge research and comprehensive reviews, this Special Issue seeks to bridge the gap between material science and engineering. We aim to platform findings that advance more resilient, eco-friendly, and energy-efficient building practices aligned with global sustainability goals.

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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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