Special Issue

Structural Analysis and Optimal Design of Innovative Bio-Based Materials/Structures

Message from the Guest Editors

The transition toward sustainable construction practices has underscored the need for advanced bio-based materials and structural systems that possess both high performance and minimal environmental impact. This Special Issue seeks to compile cutting-edge research on structural analyses, life-cycle assessments and optimal design methodologies used to examine innovative bio-based materials, such as wood, hemp, bamboo and Arundo Donax, additionally considering the next generation of structural typologies that they enable. We particularly welcome contributions that demonstrate how these materials and systems can be characterized, modeled and deployed in both new constructions and the retrofitting of existing ones, utilizing digital tools and artificial intelligence to enhance performance and sustainability.

- Bio-based material characterization
- Life-cycle assessment (LCA)
- Optimal design strategies
- Structural analysis and modelling
- AI-enabled design and simulation
- Bio-based innovative structural systems

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

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