Mathematical and Computational Applications

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Mathematical and Computational Modelling in Mechanics of Materials and Structures

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Deadline for manuscript submissions:
closed (15 June 2023)

Message from the Guest Editors

Structural design in any engineering field is led by iterative optimization processes that traditionally involve operational experience, and at the same time rely on the mathematical behavior of structural theories. In recent years, the characterization and analysis of advanced materials has become fundamental for predicting structural behavior. This is mainly due to the fact that composites and lattice structures are spreading more and more in the industry, pushing researchers towards analyzing and modeling the anisotropic and nonlocal behaviors, as well as the multi-fields, of materials and structures.

The present Special Issue focuses on two main aspects: first, the material, with its design and characterization; second, the structure, with its modelling and solution. As far as materials are concerned, lattice, anisotropic, nonlocal and multi-physics behaviors are considered. On the structures side, the Special Issue aims to attract contributions on the topics of multi-scale modeling, 3D-printed components and computer-aided structural engineering.