Special Issue

New Insights into Finite Element Analysis for Building Structure Assessment

Message from the Guest Editors

Finite Element Analysis (FEA) is pivotal in ensuring the structural integrity and safety of buildings, enabling engineers to virtually simulate and assess building responses to various static and dynamic loads, environmental conditions like wind, seismic events, temperature changes, and design modifications throughout the building's lifecycle. This Special Issue aims to showcase the transformative role FEA has played in revolutionizing the field of structural engineering by incorporating cutting-edge modeling techniques, advanced material constitutive laws and properties, and efficient computational methodologies harnessing high-performance computing. This Special Issue will publish high-quality, original research papers, in the following overlapping fields:

Material model;
Element model;
Modeling of plasticity;
Modeling of fracture mechanics;
Modeling of damage continuum mechanics;
Modeling of fatigue;
Numerical simulation of structural elements;
Numerical simulation of building structures under static loads and dynamic loads;
Machine learning-aided finite element analysis.

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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