



Advanced Numerical and Computer Methods in Civil Engineering— 2nd Edition

Guest Editor:

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submissions:

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Message from the Guest Editor

Advanced numerical and computer methods can be used, from the material level to the structural level, for solving nearly all engineering problems solely or in combination with experimental/theoretical studies.

In this Special Issue, we would like to collate manuscripts that present recent progress either in the novel development or the new application of advanced numerical and computer methods for solving problems in civil engineering. Our interests include, but are not limited to, the following areas:

- Advanced finite element/meshless/boundary element/peridynamic/discrete element/data-driven-based/machine learning-based/CFD technologies in civil engineering;
- Advanced atom-level/molecular-level/cross-scale/multi-physics modeling in civil engineering;
- Advanced strength/stability/failure/fatigue/fracture/dynamic/thermal/acoustic analysis and optimization with numerical and computer methods;
- Other contents in the scope of advanced numerical and computer methods in civil engineering.

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Special Issue

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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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