Special Issue

Advances and Applications of Modeling and Simulation in Construction Operations

Message from the Guest Editors

Construction operations are highly dynamic and are influenced by various deterministic and stochastic factors that have competing effects on their performance. Modeling and simulation techniques have been among the most useful approaches used for the design, analysis, decision support, and improvement of construction operations. Modeling and simulation of construction operations can be carried out for different purposes, such as risk assessment, evaluation of various planning scenarios, optimization of resource utilization, or comparing alternative construction methods. Simulation models can be developed at different levels of abstraction... The articles may address, but are not limited to, the following subjects:

- Modeling and simulation case studies in different construction domains.
- Data harvesting, transformation, and modeling for simulation input.
- Simulation world views, methods, and algorithms for construction operations.
- Simulation-based analytics and visualization.
- Integration of BIM and digital twins.

You may view the following link for more details:
https://www.mdpi.com/journal/buildings/special_issues/construction_operations

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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.

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