



Simulation Modeling and Symmetry in Construction

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Message from the Guest Editors

Dear Colleagues,

Simulation models are an example of the recent advances of information technology and computer sciences. They have simplified the work of engineers and decision-making personnel in the design of new designs, systems, and procedures, making modelling and simulation a key step prior to any construction stage. For the past years, simulation models have been utilized within the construction industry as a tool to tackle complex challenges under limited resources and time, becoming a real cost-efficient solution for construction practitioners.

This special issue of the journal *Buildings* aims to cover recent advances in the development and application of simulation modelling for the construction sector. This topic may be addressed from the urban to microscopic scale and for all the phases of any built asset life cycle: from the schematic design to detailed design and construction, commissioning, operation, control and maintenance, and deconstruction of new and existing built assets.





Editor-in-Chief

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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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