



Materials Engineering in Sustainable Buildings

Guest Editor:

Dr. Elena Ferretti

Department of Civil, Chemical, Environmental, and Materials Engineering (DICAM), Università di Bologna, 40126 Bologna, BO, Italy

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Message from the Guest Editor

The aim of this Special Issue is to provide a venue for networking and communication between scholars in the field of sustainable buildings. This is a topical issue; the cities of the future are expected to face complex challenges, including maintenance, resilience, energy efficiency, and environmental sustainability. In order to avoid being caught unprepared in the management of cities of the near future, it is imperative that we develop in our materials engineering innovations that can bring significant improvements to design, planning, and environmental policies. To successfully pursue this goal, a “change of pace” is necessary, which will allow us to give innovative answers to the ancestral human need for comfortable and functional shelters.

The main topics to be covered include—but are not limited to—natural materials for structural retrofitting and strengthening, natural materials to improve the energy efficiency of buildings, additive 3D printing of natural building materials, risk management, seismic engineering, structure/subsoil interactions, experimental studies, structural modelling, and soil stabilization.





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Editor-in-Chief

Prof. Dr. David Arditi

Construction Engineering and Management Program,
Department of Civil,
Architectural, and Environmental
Engineering, Illinois Institute of
Technology, 3201 South
Dearborn Street, Chicago, IL
60616, USA

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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Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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