Special Issue

New Concrete Materials: Performance Analysis and Research

Message from the Guest Editor

With the development of civil engineering, the requirements for concrete performance are also increasing. In order to meet the usage requirements, researchers have continuously developed new concrete materials with higher strength and better durability. New concrete materials play a very important role in reducing costs, increasing service life, and promoting environmental protection. Through microscopic analysis (e.g., scanning electron microscopy, X-ray diffraction, and so on), it is possible to gain a deeper understanding of the mechanical properties and failure mechanisms of new concrete materials. This Special Issue aims to encourage scientists and researchers to publish their experimental and theoretical findings or solutions on new concrete materials. Research areas may include (but not limited to) the following:

- Recycled concrete;
- Modified concrete;
- Ultra-high performance concrete;
- Mechanical properties;
- Durability;
- Low carbon;
- Microstructure.

For more information about the special issue, please click on the link below:
https://www.mdpi.com/journal/buildings/special_issues/3I866IYAH7

Guest Editor

Dr. Zhe Xiong
School of Civil and Transportation Engineering, Guangdong University of Technology, Guangzhou 510006, China

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Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

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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.

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

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