



Development and Characterization of Advanced and Sustainable Cement-Based Materials

Guest Editors:

Dr. Nicoleta Cobîrzan

Department of Civil Engineering
and Management, Technical
University of Cluj-Napoca, 400114
Cluj-Napoca, Romania

Dr. Radu Muntean

Department of Civil Engineering,
Transilvania University of Brasov,
500036 Brasov, Romania

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Message from the Guest Editors

This Special Issue aims to disseminate high-quality original research articles and reviews on combined cementitious building materials, focusing on innovative designs and sustainable production or uses in construction.

This Special Issue, entitled “*Development and Characterization of Advanced and Sustainable Cement-Based Materials*”, covers various research topics, such as (but not limited to):

- Novel composites for sustainable constructions;
- Fiber-reinforced composites for construction applications;
- Nanotechnology used for building materials;
- Waste used for new, ecofriendly cementitious building materials;
- Natural materials as partial replacement of binder or aggregates;
- Properties, microstructural characterization, and performance;
- Modeling and nondestructive assessments;
- Processing and manufacturing;
- New practical applications;
- Advanced machine learning techniques and digital fabrication;
- Life cycle assessment of cement-based materials.

For scholars interested to submit papers to the Special Issue, please click “Submit to Special Issue” or contact Astoria Yao: astoria.yao@mdpi.com





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
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