

Advances in Cement Composite Materials

Guest Editor:

Dr. Tomáš Dvorský

Department of Environmental
Engineering, Faculty of Mining
and Geology, VSB—Technical
University of Ostrava, 17.
Listopadu 15/2172, 708 00
Ostrava, Czech Republic

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Message from the Guest Editor

Concrete is one of the main building materials of the past, as well as the modern history of mankind. At present, the area of cement composites or concretes is going through a period of a relatively rapid development. Researchers are focused on the development of new additives and admixtures that affect the final properties of fresh and hardened concrete. Moreover, scientists are dealing with the replacement of natural aggregates with various secondary materials or by-products from industrial production. The resulting cement composites use the historically proven properties of concrete, meanwhile, this new material has added value in the form of reduction of waste production. When suitable components are used, the so-called eco-friendly cement composites with minimal negative impact on the environment can be produced.

The aim of this Special Issue is to publish the current advances in the field of cement composite materials not only based on ordinary portland cement (OPC) and natural aggregates, but also in the field of other materials incorporated into the cement matrix. This Special Issue provides an opportunity to present the latest knowledge in this field.



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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MDPI, St. Alban-Anlage 66
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