Special Issue

Development, Characterization and Evaluation of Advanced and Sustainable Cement-Based Materials

Message from the Guest Editors

This Special Issue thus aims to present a collection of articles on topics including but not limited to the following:

- Synthesis of novel cementitious materials (e.g., lightweight geopolymer/concrete, fiber-reinforced alkali-activated material, etc).
- Characterization techniques and modeling with advanced microscopy and spectroscopic techniques, X-ray microtomography, among others.
- Novel experimental techniques for the testing of materials, products, and structures and their applications.
- Novel diagnosis, retrofitting, and repair techniques for concrete structures.
- Integrated visualization as well as computational and systems engineering tools to measure and communicate the sustainability attributes of products and structures containing cement (multi-criteria analysis, life-cycle analysis, expert system, BIM, etc.).

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

Guest Editors

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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.

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