Special Issue

Sustainable Concrete: Research on Waste Utilization and Performance Optimization

Message from the Guest Editors

Research in the last decade has focused on sustainability and the creation of a circular economy. The construction industry uses natural resources to produce construction products. One important area of research is the reduction of natural resources by using waste materials that are used to produce construction products. Concrete plays a key role in the construction industry. This material contributes to the increase in carbon dioxide emissions. We can develop materials that will reduce these emissions and save natural resources.

The special issue "Sustainable Concrete: Research on Waste Utilization and Performance Optimization" focuses on research into sustainable concrete, when waste is used for its production. This product must be produced using unnecessary materials that would otherwise end up in landfills. It must not only be sustainable but must also meet all the basic performance properties and be mechanically durable. Sustainable, environmentally efficient concrete, made from sustainable binders, also falls within the scope of this special issue. The study of the properties of sustainable concrete and their improvement also falls within the scope of this special issue.

Guest Editors

Prof. Dr. Dzigita Nagrockiene

Department of Building Materials and Fire Safety, Faculty of Civil Engineering, Vilnius Gediminas Technical University, Saulėtekio Avenue 11, LT-10223 Vilnius, Lithuania

Dr. Ramunė Žurauskienė

Department of Building Materials and Fire Safety, Faculty of Civil Engineering, Vilnius Gediminas Technical University, Saulėtekio Avenue 11, LT-10223 Vilnius, Lithuania

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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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