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Editorial

Special Issue: "Concrete Structures: Present and Future Trends"

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Reinforced concrete is the material selected to build most of the world's infrastructure. In recent years, due to the decrease of new construction and the fact that much of the infrastructure is reaching the end of its service life, maintenance, repair, and strengthening strategies have become even more important. The rehabilitation sector nowadays is a major force in what concerns the concrete structure industry. On the other hand, some of these structures are indispensable landmarks and should be part of concrete heritage.

As a major player in the construction sector, the concrete structures community is constantly looking for innovations, and is willing to apply and develop cutting-edge technology. The main concrete structures, such as bridges, dams, and buildings, are currently high-tech infrastructures. In this scope, all novelties related to material development, design criteria approaches, inspection and maintenance procedures, monitoring tools, and strengthening and rehabilitation criteria always create a great interest in both the scientific community and industry.

In this special issue, "Concrete Structures: Present and Future Trends," an interesting overview of the current state of the art, covering relevant new developments in the field, is presented. A wide range of topics are addressed: (1) material developments, namely, novelties in the scope of reduction of heat of hydration in ternary replacement mixtures [1] and improvements in freeze–thaw resistance of concrete road infrastructure using superabsorbent polymers [2]; (3) innovations in numerical and physical models, with methods for automatic shape generation and three-dimensional printing of reduced-scale models of ultrathin concrete shells [3]; (4) exploratory experimental tests to evaluate new solutions with high performance and low environmental impact [4]; (5) management of infrastructures by developing a bridge inventory for efficient assessment, predicting future deterioration, and prioritizing their maintenance and retrofitting works [5]; and (6) design optimization by the application of machine learning and optimality in multistory reinforced concrete frames [6].

The papers published in this special issue allow its original purpose to be fulfilled, i.e., to present the state of the art and represent progress in the field of concrete structures, and the final result is clearly *something greater than the sum of those papers.* I hope that all readers enjoy the papers published here and feel encouraged and motivated to contribute to the continuous evolution in this field.

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