



*applied sciences*



*Special Issue Reprint*

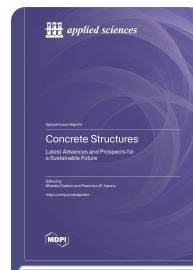
## **Concrete Structures: Latest Advances and Prospects for a Sustainable Future**

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The use of concrete has played a leading role in the construction sector from the last quarter of the 19th century to today. Therefore, the main trends in the research in the concrete field are related to maintenance, safety assessment, and repairing of the existing buildings and/or infrastructures and the design of new and environmentally innovative concrete composites. This Special Issue aims to contribute to this discussion by means of experimental, numerical, and theoretical approaches. In detail, this reprint is focused on four challenges connected to concrete as a construction material. The first topic is related to the assessment of mechanical behavior of structural concrete in existing structures. The second topic deals with the advances in cement and concrete chemistry with special attention provided to sustainable development. Moreover, the Special Issue provides experimental and numerical tests for the evaluation of the structural behavior due to seismic events in order to achieve resilient design. Furthermore, the reprint includes application of artificial intelligence algorithms for assessing the optimal design concrete dosage parameters and estimating mechanical properties.



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