

Special Issue

Advanced Experimental and Numerical Studies on Ancient Stone Masonry Constructions

Message from the Guest Editors

Ancient stone masonry constructions are a significant part of our cultural heritage. The complex architectural configurations, different masonry types, and the various structural solutions they feature demand continuous research to develop effective models that accurately represent their responses and to capture the critical issues that affect their structural performance under different loading conditions.

Experimental tests are essential in providing valuable data on the mechanical characterization of stones and mortars, as well as the response of the masonry under different loading conditions. Numerical simulations can complement experimental research by providing further insights into the behaviour of masonry since, on models validated by experimental data, they can reliably predict failure mechanisms and estimate strength and deformation capacities.

We invite researchers to contribute to this Special Issue by providing experimental results and new numerical simulations that shed light on the behaviour of ancient stone masonry constructions.

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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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