

Special Issue

Modelling and Analysis of Concrete Degradation

Message from the Guest Editors

When subjected to increasing mechanical loads, this material initially develops distributed micro-cracks, some of which then, by coalescence, may lead to localized macro-cracks, while the rest of the micro-cracks unload. Its highly heterogeneous nature also plays a key role in the cracking process. Over the past decades, several models have been proposed to describe these complex mechanisms, and many are currently under study. These include classical models based on the continuous approach, smeared and discrete cohesive crack models, and more recent techniques such as XFEM, phase field, etc. In addition, as mentioned above, since it is a highly heterogeneous material, multiscale models, such as micro- or meso-mechanical ones, have also been developed based on the physics of microstructures. This Special Issue will gather contributions on all those and related topics, including experimental, theoretical, and numerical modeling of concrete degradation.

Guest Editors

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