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Seismic Prevention, Structural Analysis and Rehabilitation of Reinforced Concrete Structures

Guest Editors:

Dr. George Kalogeropoulos
AUTH, Division of Structural Engineering (D.S.E.), Aristotle University of Thessaloniki, 541 24 Thessaloniki, Greece

Prof. Dr. Alexandros-Dimitrios Tsonos
AUTH, Division of Structural Engineering (D.S.E.), Aristotle University of Thessaloniki, 541 24 Thessaloniki, Greece

Prof. Dr. Constantin Chalioris
DUTH, Division of Structural Engineering Science, Democritus University of Thrace, 691 00 Xanthi, Greece

Deadline for manuscript submissions:
31 January 2025

Message from the Guest Editors

Modern codes for the design of reinforced concrete (RC) structures are based on the capacity design philosophy, emphasizing the hierarchy of structural members' strength and ensuring controlled and hierarchically developed damage during strong seismic events. Thus, a predetermined acceptable level of structural damage is expected, even in the event of the occurrence of the design earthquake. This damage, however, allows for the effective dissipation of seismic energy, while the structural integrity and bearing capacity are both preserved. Furthermore, earthquake damages are repairable.

This Special Issue aims to provide a significant impetus in the understanding of the failure mechanisms developed in RC members of both the modern and the existing substandard RC structures during strong earthquakes, as well as to propose solutions to prevent premature, brittle failures of RC members, particularly of the most vulnerable ones (short).

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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

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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Contact Us

Buildings Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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