Special Issue

The Challenges of and Research Trends in the Durability, Corrosion, and Cracking of Reinforced Concrete

Message from the Guest Editor

It is my pleasure to introduce this Special Issue on “The Challenges of and Research Trends in the Durability, Corrosion, and Cracking of Reinforced Concrete”. Reinforced concrete remains the backbone of modern infrastructure, yet its long‐term performance is continually challenged by environmental aggression, material aging, and mechanical stressors. This collection seeks to bring together cutting‐edge studies that explore innovative materials, advanced monitoring techniques, and predictive models aimed at mitigating this deterioration. Highlights include novel corrosion inhibitors, self‐healing cementitious composites, nano‐engineered coatings, and real‐time sensing systems for crack detection and propagation analysis. By fostering interdisciplinary collaboration, we seek to advance sustainable design practices and extend service life while reducing maintenance costs. We welcome contributions that deepen our understanding and propel the field toward more resilient, durable concrete structures.

Guest Editor

Dr. Babak Jamhiri
School of Architecture, Building and Civil Engineering, Loughborough University, Loughborough, UK

Deadline for manuscript submissions

31 October 2025

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/240376

Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

mdpi.com/journal/buildings

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/journal/buildings

MDPI

About the Journal

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.

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

Author Benefits

High Visibility:

indexed within SCIE (Web of Science), Scopus, Ei Compendex, Inspec, and other databases.

Journal Rank:

JCR - Q2 (Construction and Building Technology) / CiteScore - Q1 (Architecture)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).