

Sustainable Approaches to Building Repair

Guest Editor:

Dr. Bo Pang

Department of Civil Engineering,
Qingdao University of
Technology, Qingdao 266520,
China

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Message from the Guest Editor

Dear Colleagues,

Concrete structures serve as the backbone of transportation infrastructure and facilitate a coordinated development in western and coastal regions.

Cement concrete materials suffer from drawbacks such as brittleness, low tensile strength, poor bonding, and insufficient durability, making it difficult to meet the repair demands of high-quality building structures. Faced with the reality of deteriorating performances in a large number of existing structures, there is an urgent need to overcome the core technical bottlenecks in the field of repair materials and improve the performance of concrete repair materials.

In this Special Issue, we hope to collect papers that promote various disruptive technologies in building materials, covering multiple topics related to material design and preparation, structural reinforcement and life extension, and innovative approaches for monitoring building health.

The aim of this Special Issue is to explore experimental, numerical, analytical, environmental, and economic tools that can help to overcome the barriers in the field of building repair, detection, and reinforcement.

Guest Editors



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Special Issue

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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Buildings Editorial Office
MDPI, St. Alban-Anlage 66
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