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Advanced Research on Smart Buildings and Sustainable Construction

Guest Editor:

Prof. Dr. Sehyun Park

Department of Intelligent Energy and Industry, Chung-Ang University, Seoul 06974, Republic of Korea

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Message from the Guest Editor

Dear Colleagues,

In an era marked by pressing environmental concerns and an urgent need for sustainable development, the pursuit of carbon neutrality and sustainability in building construction and operation has become paramount.

This Special Issue aims to spotlight pioneering research and innovative methodologies in the realms of smart building technologies and sustainable construction practices, with a particular emphasis on achieving carbon neutrality and promoting sustainability. The topics including, but not limited to:

- AI-based smart building automation and control systems for carbon reduction;
- Innovative strategies for energy-efficient building design and retrofitting;
- Integration of renewable energy sources to achieve carbon neutrality in buildings;
- Sustainable materials and construction techniques;
- Digital twin applications for sustainable construction practices;
- Life cycle assessment and carbon footprint analysis in smart buildings;
- Emerging technologies and solutions for smart and sustainable buildings;
- Smart sensors and Internet of Things (IoT) applications for carbon reduction;
- Smart buildin and sustainable construction



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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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Buildings Editorial Office MDPI, St. Alban-Anlage 66 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/buildings buildings@mdpi.com X@Buildings_MDPI