Special Issue

Indoor Air Environment for Large-Scale Public Buildings

Message from the Guest Editors

Large-scale public buildings significantly consume energy and emit high levels of carbon dioxide into the atmosphere. Taking China as an example, large public buildings consume about 600 billion kWh of electricity every year, accounting for about one-tenth of the total electricity consumption, and emit about 8% of carbon dioxide emissions and produces substantial air pollution. In total, 40%~60% of the energy is used to build a healthy, comfortable, and safe air environment. For a long period of time, significant energy consumption, huge space occupation by facilities and so on are serious problems in large public buildings.

In order to solve the problems of a built environment in large-scale public buildings, researchers and scholars are mainly focusing on the resistance and consumption reduction of HVAC transmission systems, efficient air distribution modes, and air contaminants control. We hope that the publication of this Special Issue can lead to scientific and technological innovations in the field of built environments for large-scale public buildings and contribute to energy conservation and carbon dioxide emission reductions worldwide.

Guest Editors

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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

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