Lighting in Buildings

Guest Editors:

Dr. Dorukalp Durmus
Department of Architectural Engineering, Pennsylvania State University, University Park, PA, USA

Dr. Wenye Hu
School of Architecture, Design and Planning, The University of Sydney, Sydney, Australia

Dr. Lambros T. Doulos
School of Applied Arts and Sustainable Design, Lighting Design Laboratory, Hellenic Open University, 26335 Patra, Greece

Deadline for manuscript submissions:
closed (31 January 2024)

Message from the Guest Editors

Lighting in the built environment has evolved since the rapid uptake of solid-state lighting (SSL) devices. In the last few decades, energy efficiency has played an important role in lighting research, application, and standardization. However, the improvements to the efficiency of individual luminaries is reaching a plateau. The growing understanding of human visual and non-image forming effects of light highlight the importance of balancing occupants' needs and energy efficiency. Sensors and advanced controls now enable intelligent building lighting systems to meet these competing goals.

This Special Issue aims to provide insight into the research on new approaches for building lighting systems and their implications for occupants. Relevant topics for this Special Issue include: adaptive, intelligent lighting systems; human visual and non-image forming response to lighting; modeling and evaluating energy efficiency and lighting application efficacy; daylight in buildings; lighting and color in virtual reality and augmented reality applications; novel applications of SSL devices in buildings; policy, building standards, and recommendations.

mdpi.com/si/131772

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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