

Innovative lighting systems for Energy Efficiency and Sustainability in Indoor and outdoor spaces

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Advanced technologies in lighting systems play a key role in achieving energy efficiency and comfort conditions in indoor and outdoor environments. The design and implementation of efficient systems encompass both hardware and software components, including control algorithms. The selection and installation of new efficient technologies should be aligned with methods and tools for optimizing the design, installation, and testing of the systems and their control. This includes aligning the choice of technology characteristics with methods for evaluating actual performance through measurements and simulation, such as Building Information Modeling (BIM) and Digital Twin implementation and validation of simulation software. Topics for this Special Session include the following: Furthermore, the development of new knowledge, tools, and technologies to address the evolving role of humans in buildings (occupants, building operators, and other stakeholders) can provide many advantages.

Topics for this Special Session include the following:

- **Retrofit actions on lighting system in buildings;**
- **Predictive methods for evaluation of energy savings;**
- **Application and evaluation of building devices for daylighting;**
- **Development of systems for daylight control;**
- **Algorithms and tools for smart lighting control;**
- **Optimization methods of lighting design;**
- **Design and application of control lighting systems;**
- **Post-occupancy evaluation of lighting systems;**
- **Simulation software for lighting design;**
- **Use of smart lighting for safety in buildings;**
- **BIM and BEM for lighting systems;**
- **Human-centric design implementation.**

