



# ANNUAL CONFERENCE OF THE IEEE INDUSTRIAL ELECTRONICS SOCIETY

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## Special Session on

## Renewable Energy Utilization for Building Energy Saving and Carbon Emission Reduction

### Organized and co-chaired by:

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### Call for Papers

#### Technical Outline of the Session and Topics:

It is a well-established fact that people spend 90% of their lives in buildings. Due to the high integration of people, equipment and things, buildings are the main body of urban energy consumption. It is reported that buildings and construction sectors combined are responsible for 40% of global energy use and 37% of global CO<sub>2</sub> emissions. Therefore, green buildings, low-carbon buildings and nearly zeroenergy buildings are the development trends of future buildings, which bring new challenges due to applying renewable energy. As a result, new types of building energy systems related to wind power, solar power, biomass and geothermal energy arise, which can generate, store, distribute and flexibly use renewable energy sources, and differ from the traditional building energy system merely interacted with the urban power grid. This special session aims to invite theoretical and application-driven researchers, and to provide a research venue for exchanging and discussing the technical development trends and challenges of building energy saving and carbon-emission reduction. Particularly, the design, modelling, simulation and advanced control strategies concerning utilization of renewable energy in buildings will be focused on.

#### Topics of the Session include, but are not limited to:

- Advances in renewable energy technology
- Design, modelling and simulation of building energy systems
- Optimization and control of renewable energy systems
- Energy storage and integration
- Building Integrated PV
- Calculation and evaluation of carbon emission
- Energy Internet
- Microgrid, smart grid and smart energy
- Topology and robust control of modular multilevel AC/DC converters and inverters
- Ventilation and air conditioning (HVAC) energy control applications
- Networked and multi-network cooperative control

#### Author's schedule:

Deadline for submission of special session papers	April 15, 2024
Notification of acceptance	June 10, 2024
Deadline for submission of final manuscript	July 01, 2024
Early submission is highly encouraged for early decision notifications!	

All the instructions for paper submission are included in the conference website:

[www.iecon-2024.org](http://www.iecon-2024.org)

