Call for Book Chapter Proposals:

Renewable Energy for Buildings: Technologies, Control, and Operation Techniques

We welcome book chapter contributions that revolve around the following themes. Please note that authors are welcome to propose a new book chapter title related to the book topics.

Potential topics include but are not limited to the following:

❖ **Part 1. A conceptual introduction, review and modeling of renewable energy applications in buildings**
- Chapter 1 Integrating solar panels, solar thermal systems, and small-scale roof-mounted wind turbines in buildings.
- Chapter 2 Introduction and literature review of bioenergy and geothermal systems in buildings.
- Chapter 3 Introduction and literature review of building components with integrated renewable energy generation systems
- Chapter 4 Risk modeling in operation of renewable energy generation systems.
- Chapter 5 Challenges and advantages of bidirectional energy transfer between building energy system and main grid.

❖ **Part 2. A conceptual introduction, review and modeling on integrating energy storage systems in buildings**
- Chapter 6 The role of energy storage systems in mitigating the intermittency of renewable energy resources in buildings.
- Chapter 7 Introduction and literature review of building components with passive thermal energy storage systems.
- Chapter 8 Optimal design and financial analysis of implementing thermal and battery energy storage systems in buildings.
- Chapter 9 The role of PHEV battery pack as an energy storage system in buildings.
- Chapter 10 Optimal scheduling and operation of building energy generation and storage systems.

❖ **Part 3. Intelligent control and management of energy consumption in buildings**
- Chapter 11 Introduction and literature review of home energy management systems.
- Chapter 12 Optimal operation of thermostatic loads based on predicting residents' preferences.
- Chapter 13 Application of machine learning for the intelligent operation of building energy systems.
- Chapter 14 Residential load pattern recognition and prediction based on user's activity pattern.
- Chapter 15 Intelligent data-driven techniques in optimizing the energy consumption in buildings.

Important Dates:

March 15, 2021: Book Chapter Proposal

April 15, 2021: Accept/Reject Notification

June 15, 2021: Full Chapter Submission

August 1, 2021: Accept/Reject Notification

September 15, 2021: Revised chapter Submission

November 30, 2021: Final Print Version Available (Tentative)

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Please send your inquiries and book chapter proposals including an abstract for the proposed chapter, tentative sections and subsections of the chapter to miladsm@psu.edu.