Special Issue

Applications of Artificial Intelligence (AI) in Energy Storage Systems Design, Operation and Control

Message from the Guest Editors

Energy storage systems (ESSs) are receiving growing attention as main stream solutions for the widespread use of renewable energies and subsequently as a means of decarbonizing the electrification of society. As ESSs are well-positioned to bridge the inputs from renewable and recovered energies with the energy demand across varied scales, geographies, and times, there is a pressing need to expand the research of energy storage technologies and their applications. Artificial intelligence (AI) is widely applied in the sizing, scheduling, control, and optimization of energy systems. This Special Issue intends to collect and disseminate the state of the art on research and practice in applications of AI in modeling and analysis of energy storage systems with a focus on the following (and other closely related) topics:

- Energy supply predictions for integration of renewable energies and ESSs;
- Energy demand and critical load predictions for ESSs control and operation;
- Capacity planning and sizing of ESSs;
- Optimized scheduling of ESSs;
- Monitoring and control of ESSs;
- Fault detection, diagnosis, and reliability analysis for ESSs;
- Distributed management of ESSs;

Guest Editors

Dr. Fuzhan Nasiri

Prof. Dr. Ryozo Ooka

Prof. Dr. Fariborz Haghighat

Prof. Dr. Ruchi Choudhary

Prof. Dr. Frédéric Kuznik

Prof. Dr. Mariagrazia Dotoli

et al.

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Energies
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
energies@mdpi.com

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Industrial Engineering, University Niccolò Cusano, 00166 Roma, Italy

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