Special Issue

Power Electronics and Energy Management for Battery Storage Systems

Message from the Guest Editors

Deployment of distributed renewable generation and e-mobility systems is creating a demand for improved dynamic performance, flexibility, and resilience of the electrical grid. Various energy storages, such as stationary and electric vehicle batteries together with power electronic interfaces, will play a key role in addressing these requests thanks to their enhanced functionality, fast response times, and configuration flexibility. However, several barriers still stand in the way of massive implementation of this technology, and the associated enabling developments are becoming of paramount importance. These include energy management algorithms; optimal sizing and coordinated control strategies of different storage technologies, including e-mobility storage; power electronic converters for interfacing renewables and battery systems, which allow advanced interactions with the grid; increase of round-trip efficiencies by means of advanced materials, components, and algorithms.

Guest Editors

Dr. Andrei Blinov

Power Electronics Research Group, Department of Electrical Power Engineering and Mechatronics, School of Engineering, Tallinn University of Technology, 19086 Tallinn, Estonia

Prof. Dr. Sheldon Williamson

Electrical, Computer and Software Engineering, University of Ontario Institute of Technology, Oshawa, OR L1H 7K4, Canada

Deadline for manuscript submissions

closed (20 May 2022)

Energies

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 7.3

mdpi.com/si/52550

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

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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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