Special Issue

Advanced and Multifunctional Materials for Energy Storage Systems

Message from the Guest Editors

Taking into consideration the requirement for the reduction of the environmental impact of current technologies and the increasing mobility of people, it has become necessary to improve energy storage systems for portable applications and/or electric vehicles. The most widely used energy storage systems are lithium-ion batteries that include lithium polymer, Li-sulfur, Li-air, and Li-silicon batteries. There are also other battery systems such as sodium-ion batteries and magnesium-ion batteries that could potentially be alternatives to lithium-ion batteries in specific areas but need to increase their performance. To improve battery performance, it is essential to develop a new generation of advanced and (multi)functional materials for electrodes (anode and cathode) and separators/solid polymer electrolytes, allowing the tailoring and optimization of the main physical-chemical processes that affect battery performance.

Contributions may discuss the fundamental properties of materials, their processing and characterization, or innovations in processing technologies, geometries, or battery applications.

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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.

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