Special Issue

High-Energy Materials for Next-Generation Lithium-Ion Batteries

Message from the Guest Editors

Lithium-ion batteries (LIBs) have become a crucial part of everyday life. However, existing battery systems cannot fully meet the requirements of electric vehicles, electrochemical energy storage and other fields in terms of safety and energy density. The purpose of this Special Issue is to draw attention to the latest progress in the field of next-generation lithium-based batteries, also integrating research progress in related fields. Researchers are warmly invited to submit their original research papers or review papers to this Special Issue. Topics of interest for this Special Issue include, but are not limited to, the following: Cathode materials: Ni-rich cathodes, disordered cathodes and high-entropy cathodes;Anode materials: Lithium metal, protected lithium metal anodes, silicon–graphite composites, alloys and high-entropy alloys; Electrolytes and additives: new salt solvents and additives that enable enhanced safety or higher-energy-density electrodes and high-voltage electrolytes; Solid-state electrolytes: Inorganics (oxide ceramics and halides) and polymers (electrolytes, gel, ionomers).

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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