Special Issue

Advances in Lithium–Sulfur Batteries Based on Multifunctional Cathodes and Electrolytes

Message from the Guest Editor

This Special Issue, “Advances in Lithium–Sulfur Batteries Based on Multifunctional Cathodes”, addresses recent studies of novel cathode materials for Li-S battery structures by adopting the current state-of-the-art cathode design. Whether or not Li–S energy storage will be able to fulfill this potential depends on simultaneously solving many aspects of its underlying conversion chemistry. In this regard, we invite you to submit original papers that address all varieties of recent developments in tackling the dissolution of polysulfides—a fundamental problem in Li–S batteries—focusing on both experimental and computational approaches to tailor the chemical interactions between sulfur host materials and polysulfides. Of particular interest are studies that also discuss smart cathode architectures enabled by recent materials engineering, especially for high areal sulfur loading, as well as innovative electrolyte design to control the solubility of polysulfides. Key factors that allow long-life and high-loading Li–S batteries are welcome.

Guest Editor

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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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