Special Issue

Nanocomposites for Energy Conversion/Storage Devices

Message from the Guest Editor

Functional interfaces provide opportunities in energy conversion/storage devices by realizing efficient charge transfer/transport. Nanocomposites consisting of organic/inorganic functional materials are the scaffold for applied science for new physical phenomena as well as highly efficient device applications in multidisciplinary research fields. Research efforts have been made to create and design material properties for superior device performance. Importantly, tuning the activity of nanocomposites consisting of organic and inorganic components remains elusive even if the combinations have greatly extended structural and functional flexibility over single-component materials demonstrating much success in the energy and display research fields. We focus on fundamental material properties of nanocomposites for energy-conversion/storage device applications, including batteries, solar cells, photoelectrochemical hydrogen storage, and thermoelectrics. This SI is devoted to interdisciplinary efforts to realize new physical phenomena as well as highly efficient energy and environment devices, focusing on materials processing, fabrication, and characterization with various strategies.

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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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