Special Issue

Select Papers in Electrochemical Energy Conversion and Storage Devices

Message from the Guest Editor

Energy materials (EMs) are essential components of many Electrochemical energy conversion and storage devices (EECSDs), such as porous flow fields, gas diffusion layers and catalyst layers used in proton exchange fuel cells, porous transport layers used in electrolyzers, macroporous electrodes used in redox flow batteries, and intercalation electrodes used in lithium-ion batteries. EMs must fulfil several critical functions, such as providing a transport pathway for reactants and products through their pore volume and ensuring charge and heat conduction through their solid matrix. Porous electrodes have the added functionality of providing a reactive surface area. Optimization of the above components is needed to: (i) improve performance and durability at lower cost; (ii) provide manufacturing solutions of cells, stacks and systems in high volume and efficiency; (iii) reduce the carbon footprint; and (iv) integrate manufacturing with recycling industries in a circular economy. This Special Issue aims to collect original research and review articles on recent advances of EMs for electrochemical applications.

Guest Editor

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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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