Special Issue

Advanced Electrode Materials for Lithium-Ion and Sodium-Ion Secondary Batteries

Message from the Guest Editors

Electrode materials for lithium-ion and sodium-ion secondary batteries are essential in achieving higher efficiency and reliability in energy storage systems, which are critical in modern technology. For this Special Issue, we invite contributions on novel electrode materials and approaches that drive enhancements in lithium-ion and sodium-ion batteries. We encourage submissions that explore new classes of materials, including nanostructured alloys, high-entropy oxides, transition metal sulfides, and carbon materials. Key focus areas include innovative electrode materials capable of higher energy densities and advanced separator technologies to improve cycle stability. Additionally, we invite studies on interface engineering, ionic conductivity optimization, and degradation resistance, aiming for breakthroughs at the material level to support efficient charge/discharge cycles and extended battery life. We welcome all types of manuscripts, including research articles, reviews, perspectives, and communications, that offer insights into the material-level advancements that are driving the next generation of lithium-ion and sodium-ion rechargeable battery technologies.

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Deadline for manuscript submissions

closed (20 July 2025)

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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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