Special Issue

Novel Materials for Rechargeable Batteries

Message from the Guest Editors

Sustainable solutions to producing and storing energy are in high demand to ensure our world's sustainable development. Therefore, energy storage and conversion have been witnessing a surge in interest in recent years. So far, significant progress has been made in high-performance batteries. New materials and mechanisms have paved a solid foundation for improvements. This Special Issue focuses on the intrinsic structural characteristics of the novel materials that determine battery performance. Specifically, the band structure, coordination environment, electron spin, and lattice stress of active materials play key roles in redox or catalytic reactions. Simultaneously, advanced characterization techniques are essential in revealing the complicated chemical processes in these new mechanisms. This Special Issue will provide insights into new materials and mechanisms that are driving the development of advanced batteries. Original research articles and reviews are welcome. Research areas may include (but are not limited to) the following: Alkali-ion batteries; Metal–air batteries; Li–S batteries; Solid-state batteries; Aqueous batteries; Redox flow batteries.

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Message from the Editor-in-Chief

Take the opportunity to publish your original scientific work or a review paper concerning battery materials, battery technology or battery application within this new open access journal. Along with material science, the journal also addresses engineering and multidisciplinary research topics, such as cell and system design or storage system integration. Publishing proffers visibility for the benefit of other experts and facilitates discussion of the research results within the field. You are invited to publish your work, read published papers and to participate in topical discussions.

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