



## Nanofunctional Electrode Materials

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### Message from the Guest Editors

Energy storage devices with high electrochemical performances play vital roles in the conversion and efficient utilization of electrical energy. To maximize the energy density and power density of the electrode materials, it is essential to increase the volume/mass utilization rate and the electrochemical reaction rate. The electrochemical energy storage mechanisms of electrode materials are mainly divided into the battery energy storage mechanisms of intercalation, conversion, and alloying, and the supercapacitor energy storage mechanisms of electric double-layer reaction and pseudocapacitance reaction. With the research into electrode materials, higher volume/mass utilization also means more electrochemically active sites, larger electrode liquid–electrode contact areas, and more adequate electrochemical reactions.

Through the design of high-performance electrode materials with nanometric or otherwise smaller particle size, the combination of the physical properties of the electrode material itself, the electrochemical mechanism, and advanced in situ electron microscopy technology, we can carry out precise electrochemical reactions and undertake mechanistic exploration.





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## Message from the Editor-in-Chief

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