Special Issue

New Electrocatalytic Materials for Energy Conversion and Storage: Fuel Cells, Electrolysis, and Metal-Air Batteries

Message from the Guest Editor

The environmental emergencies that our planet is tackling, such as climatic change and global warming, have resulted from the thoughtless employment of fossil fuels over the past decades to satisfy the increasing world energy demand for supporting demographic, industrialization, and urbanistic growths. The development of sustainable energy systems is essential to hinder global warming and environmental pollution emergencies. Fuel cells and batteries are the most promising technologies for the spontaneous conversion of chemical to electric energy and their versatility covers the stationary, portable, and automotive markets. The research in these fields is mainly focused on increasing efficiency and durability and reducing the overall cost by using non-precious metal catalysts and components with low environmental impact. This Special Issue deals with the preparation and characterization of new electrocatalytic materials and their integration into efficient energy conversion and storage devices.

Keywords

- electrocatalysis
- non-PGM materials
- fuel cells
- batteries
- membrane–electrode assembly

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