Emerging Nanomaterials for Energy Storage Applications

DESCRIPTION:

Conventional energy storage technologies like lithium-ion batteries and supercapacitors are nearing their limits in terms of energy density, cycle life, and charge/discharge rates. To overcome these constraints, researchers are constantly investigating a wide range of nanomaterials, each with special qualities and capacities. The development of advanced nanomaterials has become a crucial avenue to revolutionize energy storage technologies in the face of growing global energy challenges and with the growing emphasis on sustainability, the development of advanced nanomaterials has taken center stage in the search for more environmentally friendly and efficient energy storage solutions. The content of this special issue will explore (but not be limited to) the synthesis, characterization, and applications of different nanomaterials in energy storage systems. A variety of nanomaterials will be covered, including nanoparticles, nanotubes, and nanowires, which provide several benefits to improve energy storage, including increased energy density, quicker charging, and longer cycle life. The remarkable potential of 2D nanomaterials such as graphene and MXenes will also be covered in this special issue. The extraordinary electrical, mechanical, and electrochemical qualities of these 2D nanomaterials have drawn more attention in recent years, making them intriguing options for improving energy storage systems. By showcasing the most recent advancements and future directions in the field of nanomaterials, this special issue will give a platform to revolutionary ideas that will excel in the development of the upcoming generation of energy storage technologies, ultimately influencing the direction of a more sustainable and energy-efficient future.

Key outcomes to the readers:

- This special issue will provide readers with a thorough overview of the latest advancements in the field of nanomaterials for energy storage.
- This special issue will cover most of the nanoparticles like nanowires, nanotubes, etc . and also covers the latest 2D nanomaterials and their ability and capability in enhancing the energy storage system applications.
- This special issue will also give the reviewers to explore the future directions and prospects of nanomaterials in energy storage applications leading to sustainable development.

HOW TO SUBMIT

The authors are kindly invited to register at our paper processing system and submit their contribution (both original papers or reviews are welcome) using a special track established for this special issue **(Section/Category – "Emerging Nanomaterials for Energy Storage Applications").**

All manuscripts will undergo the standard peer-review process (single-blind, at least two independent reviewers) and will be treated in the same way as other regular articles (indexing, abstracting, immediate publication, etc.). Instructions for authors are available here.

In case of any questions please contact Open Chemistry Managing Editor:
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