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Advances in Nanomaterials for Lithium-Ion/Post-Lithium-Ion Batteries and Supercapacitors

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Message from the Guest Editors

Environmentally friendly power generation technologies play an essential role in future energy supply due to the increased need for less dependence on fossil fuels for primary energy harvesting. The intermittent nature of many renewable energy sources, such as solar or wind power, makes the development and deployment of energy storage systems paramount. In this respect, Lithium-ion batteries dominate the market since their launch by Sony in 1991. However, the rareness and cost of Lithium quests for sustainable and abundant alternatives, like Sodium, Potassium, Magnesium etc. These new “post-lithium” technologies require the discovery and study of new electrode materials, electrolytes and cell components as well as a fundamental understanding of the phenomena occurring during the cell operation.

We invite authors to contribute with original research articles or comprehensive review articles covering the most recent progress and new developments in the design, synthesis, study of materials for lithium and post-lithium systems, such as Sodium, Potassium, Magnesium, Zinc, Calcium, Aluminium etc. as well as those used for high power devices (e.g. in M-ion capacitors).



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Special Issue



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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