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Advances in Nanocomposite-Enhanced Phase Change Materials

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Deadline for manuscript submissions:

closed (31 August 2023)

Message from the Guest Editors

Dear Colleagues,

Phase change materials (PCMs) are a family of chemical substances able to absorb or release large quantities of latent-heat thermal energy at a constant temperature by undergoing a phase transformation. PCMs have considerably higher thermal energy-storage densities in comparison to sensible heat-storage materials and can effectively improve energy efficiency by bridging the gap between energy availability and energy use, thus reducing energy waste. Through innovative designs and fabrication in the nanoscale, PCMs can attain the additional functionality of photocatalysis, antibiosis, magnetism, electrical conduction, photoluminescence, and many more, in addition to heat energy storage and thermal management.

This Special Issue on Nanomaterials aims to cover the most recent advances in nanocomposites to enhance the various performance of PCMs and relevant technologies. We invite original papers in various formats. The potential topics are as follows:

- Simulation analysis of PCMs in nanocomposite systems;
- Multifunctional designs and multipurpose application of PCMs in nanocomposite systems;



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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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