

Special Issue

Preparation, Characterization, Properties, Simulation, and Applications of Nanostructured Materials

Message from the Guest Editor

This Special Issue aims to provide a comprehensive overview of original research articles, communications, or reviews focusing on the development, preparation, chemical synthesis, structural design, material selection, characterization, and application of advanced nanocomposites. Potential topics include, but are not limited to, the following:

- Novel synthesis strategies and design principles for nanocomposites (clays, nanoparticles, ferrite embedded in SiO₂/PVA matrix, catalysts, dyes, drugs, etc.);
- Mechanism of formation, physicochemical and morphological properties, and applications of nanocomposites embedded in SiO₂;
- Advances in characterizing the structure and properties of nanocomposites;
- Processing and simulation of damage and failure in nanocomposites;
- New applications of functional nanocomposites in medicine, healthcare, green energy, coating, magnetic materials, optoelectronics, and sensing;
- Industrial implementations and technological innovations utilizing nanocomposites;
- Design, synthesis, and characterization of composite adsorbent nanomaterials;
- Nanocomposites for biomedical and dental applications.

Guest Editor

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About the Journal

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.

Editor-in-Chief

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