

Special Issue

Self-Assembled Nanoparticles: Synthesis and Potential Applications

Message from the Guest Editor

Self-assembly of nanoparticles (NPs) has become a very effective and promising approach to synthesize a wide range of novel nanoscale functional materials. NPs can arrange themselves in two or three dimensions, resulting in ordered and well-organized superstructures, which can exhibit interesting collective and/or synergistic properties that are different from those of individual colloidal NPs. However, the controlled synthesis of highly ordered assemblies of NPs remains a challenging task. This Special Issue is open to contributions on NPs' assemblies regarding: i) synthetic strategies and post-synthetic functionalization methods; ii) fundamental studies for understanding the self-assembly process and the unique interplay of molecular and nanoscale effects; iii) characterization of collective mechanical, electrical, thermal, optical, and/or chemical properties, as well as the possible synergistic effects; and iv) development of potential applications for the new or improved assembled nanomaterials.

Guest Editor

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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.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones

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