Special Issue

Recent Advances in the Development of Nano-Biomaterials

Message from the Guest Editors

Nano-biomaterials are identified as biomaterials (including carbon-based nanomaterials, polymers, metals, ceramic, and composites) with constituent or surface feature sizes less than 100nm and are being researched as potential alternatives to conventional nanomaterials for biological applications. These nanoscale biomaterials can be produced by living organisms, mainly microbes, or derived from natural sources, such as plant extracts and agricultural wastes. Moreover, functionalized conventional nanomaterials through the encapsulation or immobilization of biological macromolecules, such as enzymes and other proteins, can also be labeled as nano-biomaterials, considering the impacts of biomolecules on a nanomaterial's parental characteristics and properties. The unique properties of nanoscale biomaterials, along with their enhanced biocompatibility, bioavailability, bioreactivity, and low or negligible toxicity, overcome scientific and medical challenges, thus making them an attractive research direction in a vast variety of biomedical and biotechnological applications.

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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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