Special Issue

Functional Biomaterials and Nanobiomaterials for Biomedical Applications

Message from the Guest Editors

Customized nanomaterials have a wide range of medical applications in the areas of diagnostics, surveillance, and medication. Nanostructured biomaterials such as nanoparticles, nanofibers, nanosurfaces, nanowires, and nanocomposites are functionalized with peptides, proteins, nucleic acids, and drugs to be delivered to cells and organs. Unique physicochemical properties such as particle size, particle shape, surface area, solubility, polymorphism, surface charge, and hydrophobicity mean that nanomaterials must be considered when formulating a drug for effective drug delivery, tissue regeneration, and diagnostic applications. Nanomaterials' distinctive optical and X-ray attenuation qualities are used for cancer phototherapy. Nanomaterials in the form of nanoprobes are used for multimodal imaging of malignancies by combining them with other functional nanoparticles. In recent years, trending biomaterials have enabled three-dimensional (3D) bioprinting, organ-on-a-chip applications, immunomodulation, extracellular vesicle research, vaccine delivery, and anti-viral performances.

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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