Special Issue

Nanomaterials for Cancer Therapy and Emerging Biomedical Applications

Message from the Guest Editors

The integration of nanotechnology into biomedical sciences has transformed modern healthcare.

Nanomaterials enable precise molecular control, advancing targeted drug delivery, imaging, and tissue regeneration. Their tunable surface chemistry, high surface-to-volume ratio, and biocompatibility have opened new avenues for cancer therapy, wound healing, and regenerative medicine. This Special Issue gathers research bridging materials science, chemistry, bioengineering, and clinical medicine. It focuses on innovative nanomaterials for diagnosis, treatment, and regeneration, encouraging both experimental and translational studies. Key areas include the following:

- Nanocarriers for targeted delivery
- Stimuli-responsive and multifunctional nanomaterials
- Bioinspired, polymeric, and metallic nanoparticles
- Hydrogel and scaffold-based nanocomposites
- Photothermal, photodynamic, and chemo-synergistic nanotherapies
- Al-assisted design and modeling
- Biosafety and clinical translation of nanomedicines
- Nanobiosensors and imaging for early detection

This issue highlights breakthroughs in smart nanomaterials, nanofabricated scaffolds, and multifunctional theranostic platforms advancing nanomedicine.

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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 nanometerscale 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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