



Nanomaterials in Biological Systems: Opportunities and Challenges

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Message from the Guest Editors

Nanomaterials are a class of materials with unique properties that can be used in a wide range of applications and improve biomedical treatments. Numerous nanomaterials are being developed and studied for many applications, such as drug delivery, hyperthermia, imaging agents for diagnosis, and treatment of several conditions. Nanomaterials enable creating new therapeutic approaches and optimizing conventional treatments as they allow the delivery of drugs to the affected organ/tissue in a more specific and controlled way, as well as stimuli-responsive therapeutics. Nonetheless, while nanomaterials present many potential advantages and open several opportunities for new biomedical and theragnostic applications, their interaction with biological systems still poses several challenges. Their short- and long-term effects on different cell types, organs, and body systems still need to be better understood.

The aim of this Special Issue is to explore the applications of nanostructured materials for biological and/or biomedical applications and the interactivity of these materials with different cells, organs, and biological systems.





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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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