



Nano-Bio Hybrid Systems for Biomimetic Applications

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Message from the Guest Editors

In recent years, immense research effort has been devoted to the generation of hybrid materials which change the electronic properties of one constituent by changing the optoelectronic properties of another. The most appealing approach to design such materials relies on the combination of organic materials with biological systems like redox-active proteins. Despite strong advances in the field, the efficiency of the final devices is usually very low due to two main problems related to the interfacing of such different materials: charge recombination at the interface and the high possibility of losing the function of the biological component, which leads to inactivation of the entire device. The present Special Issue of *Nanomaterials* is aimed at presenting and giving a balanced view of the current state-of-the-art and recent advances in the field of nano-bio hybrid materials that can be used as bio-sensors, bio-fuel cells, biohybrid photoelectrochemical cells, and nanostructured photoelectronic devices. Experimental as well as theoretical contributions are welcome, including full papers, communications, and reviews to obtain a complete snapshot of the ongoing research activity.





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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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