Special Issue

Progress of Emerging Nanomaterials in Ecotoxicity and Biotoxicity

Message from the Guest Editor

Nanotechnology has revolutionized various industries, but concerns about the environmental and biological risks of engineered nanomaterials (ENMs) have grown. Since the early 2000s, researchers have investigated the fate, transport, and toxicity of nanomaterials in ecosystems and organisms. While significant progress has been made, many questions remain regarding their long-term effects, interactions with biological systems, and potential risks to human health and the environment. This Special Issue aims to highlight the latest advancements in understanding the ecotoxicity and biotoxicity of emerging nanomaterials, including metal-based nanoparticles, carbon nanomaterials, polymeric nanoparticles, and hybrid nanostructures. We invite original research articles, critical reviews, and perspectives addressing nano–bio interactions, fate and transformation in environmental matrices, and risk assessment frameworks. Studies utilizing omics technologies, advanced imaging, and in vivo/in vitro models to unravel nanomaterial–biota interactions are particularly encouraged.

Guest Editor

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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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