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Do Nanoplastics Represent a Risk for Aquatic Organisms? From Bio-Nano-Interactions to Possible Impacts at Population and Community Level

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Deadline for manuscript submissions:
closed (31 July 2023)

Message from the Guest Editors

Nanoplastics-NPs, derived from products containing nanoscale plastics (<1μm) and from aging/fragmentation of larger plastic debris are present in different environmental compartments, and in particular in aquatic ecosystems, where they may reach concentrations able to exceed toxicity-thresholds for living species. Increasing evidence indicates how particle behaviour in both environmental and biological media can result in the formation of protein eco- and bio-coronas. These can, in turn, affect NP interactions, uptake and effects on aquatic biota. This special issue will gather contributions on the biological effects of NP in different organisms evaluated at different levels of biological organization, from molecular interactions to uptake and effects at cell and tissue level, in order to identify possible targets and mechanisms of action that can lead to alterations of key biological processes in individuals. Standardized methods as those *in silico* and *in vitro* and *read-across* approaches will be also covered. Methods for extrapolating results up to population and community effects are welcome. This information will contribute to the environmental risk assessment of NPs.

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Editor-in-Chief

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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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