Special Issue

From Fragment to Fallout: Innovative Approaches to Analysis and Removal of Microplastics and Nanoplastics

Message from the Guest Editor

Microplastic and nanoplastic pollution are at the forefront of global environmental and policy discussions, especially as international negotiations for a legally binding plastics treaty unfold in Geneva. These pollutants are now widespread across marine. freshwater, terrestrial, and atmospheric systems, posing significant risks to ecosystems and human health. This issue also invites studies addressing the fate and behavior of chemical additives—such as plasticizers, flame retardants, UV stabilizers, and antimicrobial agents-which are often released from or associated with plastic debris. These additives can increase toxicity and persistence, complicating removal and regulatory assessment. Multidisciplinary approaches that combine materials science, environmental chemistry, toxicology, and engineering are encouraged to address this global challenge holistically. This Special Issue aims to provide a platform for innovative research that supports evidence-based policy and next-generation plastic mitigation technologies.

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Message from the Editor-in-Chief

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