

Special Issue

Biodegradation of Pollutants in the Environment: Omics Approaches

Message from the Guest Editor

Biodegradation by microorganisms is considered a cost-effective and environmentally friendly process for the removal of contaminants from natural ecosystems, as well as for preventing their release from pollution sources. In recent decades, omics disciplines, such as genomics, proteomics, metabolomics, metagenomics and transcriptomics, have emerged as scientific tools to understand the mechanisms of biodegradation processes, namely, the elucidation of genes and enzymes involved in the degradation of and tolerance to xenobiotics, the identification of intermediate and final metabolites of degradation pathways, and the identification of key microorganisms from communities involved in the degradation. This knowledge allows one not only to deepen the understanding of the biodegradation processes but also to optimize the efficiency of degradation and the isolation of degrading strains for use in biotechnological applications for bioremediation proposes. Reviews and original articles focused on biodegradation of pollutants focused on the use of omics tools and understanding molecular mechanisms are welcome.

Guest Editor

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