Special Issue

Role of Microbes in the Remediation of Harmful Pollutants in Contaminated Ecosystems

Message from the Guest Editors

In addition, deepening our knowledge on the diversity and metabolic pathways of microbes inhabiting contaminated marine sites can unveil novel taxa (either as single strains or consortia) with biotechnological potential for the bioremediation of harmful pollutants. Indeed, bioremediation approaches based on the stimulation of useful autochthonous microbes (biostimulation) or the addition of useful microbes (bioaugmentation) are gaining increasing attention for their eco-compatibility and lower costs. For effective bioremediation, ideal microbes should be abundant and metabolically active in the natural system, resistant to mixed contaminations, easy to grow, and responsive to selective stimulation. However, frequent failures are observed due to unsuccessful increases in the abundance or activity of target microbes, or due to the low fitness of lab-grown microbes once released into the contaminated environment. It is thus important to improve our knowledge on the diversity and dynamics of natural microbial assemblages for optimizing bioremediation performance, especially in sites that show the co-presence of multiple contaminants.

Guest Editors

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"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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