Environmental push for green does not mean only to reduce, reuse and recycle. Instead, it demands us to explore innovative strategies by utilizing available natural resources in a long sustainable manner to regain our original environmental scenario with efficient energy optimization, minimal generation of waste and healthy living which indirectly solves the issue of global warming. Keeping this aspect in mind, tremendous discoveries in the field of new groups of microbes like actinomycetes from plants, animals, soil, water and air have rapidly increased. The relevant, appropriate applications of these microbes are yet to be established. However, the researchers are just beginning to pioneer how these microbial communities can be linked to various functions in ecosystems through new interdisciplinary approaches that include emerging
trends like biotechnology and nanotechnology in advanced research which might evolve a significant contribution in the field of global technological revolution for a safe green future. This research topic invariably summarizes the excellence of microbial treasure isolated from environmental resources and their applications in antimicrobial, biodegradation and bioremediation activities employing varied biotechnological, nanotechnological and bioengineering methodologies.

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