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Nota di contenuto	- Genetically Modified Organisms (GMOs) and Their Potential in Environmental Management: Constraints, Prospects and Challenges -- Advances in Bioremediation of Toxic Heavy Metals and Radionuclides in Contaminated Soil and Aquatic Systems. - Phycoremediation: Algae as Eco-Friendly Tools for the Removal of Heavy Metals from Wastewaters -- Phytoremediation: An Emerging Green Technology for Environmental Decontamination, Prospects for Future Research and Challenges -- Emerging and Ecofriendly Technologies for Removal of Organic and Inorganic Pollutants from Industrial Wastewaters -- Constructed Wetlands: A Clean-Green Technology for Degradation and Detoxification of Industrial Wastewaters -- Nano-Bioremediation: An Innovative Remediation Technology for Treatment and Management of Contaminated Sites -- Electro-Bioremediation: An Advanced Remediation Technology for Treatment and Management of

Contaminated Soil -- Microbial Fuel Cell (MFC): An Innovative Technology for Wastewater Treatment and Power Generation -- Functional Diversity of Plant Endophytes and their Role in Assisted Phytoremediation -- Toxic Metals in Industrial Wastewaters and Phytoremediation Using Aquatic Macrophytes for Environmental Pollution Control: An Eco-Remedial Approach -- Microalgae: An Ecofriendly Tools for the Treatment of Wastewaters for Environmental Safety -- Phycoremediation: An Integrated and Eco-Friendly Approach for Wastewater Treatment and Value-Added Product Potential -- Pulp Paper Mill Wastewater: Eco-Toxicological Effects and Bioremediation Approaches for Environmental Safety. - Cadmium as Environmental Pollutant: Eco-Toxicological Effects, Health Hazards and Bioremediation Approaches for Its Detoxification from Contaminated Sites. - Cyanobacteria: The Eco-friendly Tools for the Treatment of Industrial Wastewaters. - Plant-Microbe Interactions for Bioremediation and Phytoremediation of Environmental Pollutants and Agro-Ecosystem Development -- Molecular Technologies for Assessment of Bioremediation and Characterization of Microbial Communities at Contaminated Sites. - Biochar: A Sustainable Tool in Soil Pollutants Bioremediation -- Bioremediation of Melanoidins Containing Distillery Waste for Environmental Safety -- Progresses in Bioremediation Technologies for Industrial Waste Treatment and Management: Challenges and Future Prospects.

Sommario/riassunto

Achieving environmental sustainability with rapid industrialization is currently a major global challenge. Industries are the key economic drivers, but are also the main polluters as untreated/partially treated effluents from industry are usually discharged into the aquatic environment or dumped. Industrial effluents often contain highly toxic and hazardous pollutants, which cause ecological damage and present and health hazards to living beings. As such, there is a pressing need to find ecofriendly solutions to deal with industrial waste, and to develop sustainable methods for treating/detoxifying waste before it's released into the environment. As a low cost and eco-friendly clean technology, bioremediation can offer a sustainable alternative to conventional remediation technologies for the treatment and management of industrial wastes. This book (Volume II) describes the role of biological agents in the degradation and detoxification of organic and inorganic pollutants in industrial wastes, and presents recent bioremediation approaches for waste treatment and management, such as constructed wetlands, electro- bioremediation and nano-bioremediation, as well as microbial fuel cells. It appeals to students, researchers, scientists, industry professionals and experts in the field of microbiology, biotechnology, environmental sciences, ecotoxicology, environmental remediation and waste management and other relevant areas who are interested in biodegradation and bioremediation of industrial wastes for environmental safety.
