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Sommario/riassunto	This book provides essential information on the role of phytonanotechnology in the removal of environmental pollutants and

covers recent advances in experimental and theoretical studies on plant-derived nanoparticles. It also discusses their current and potential applications and challenges. The combination of nanotechnology and phytoremediation, which is called phytonanotechnology, have the potential to remove contaminants from the environment or degrade them. The efficiency of contaminant removal can be improved by combining both methods as they are complementary to each other. Phytonanotechnology offers the advantages of increased bioavailability, prolongation of heavy metal absorption time, and multiple metal removal, all contributing to improved efficacy and decreased toxicity in plants and surroundings. Therefore, there is immense scope for nature-derived molecules to be formulated into nanotechnology-based phytoremediation approaches targeting the specific heavy metal removal from effluents and surroundings. This encourages research initiatives to synthesize more phytonanotechnology based uptake plant systems with high efficiency. Efficient formulation targeting strategies and the evaluation of targeting efficiency of phytonanotechnology, conforming to international standards of their toxicology and biocompatibility, could pave the way for heavy metal uptake and removal by plant-based systems. This book serves as a valuable resource for postgraduate students, environmental scientists and materials scientists in academia and corporate research. .