

1. Record Nr.	UNINA9910502971403321
Autore	Ansari Mohammad Azam
Titolo	Microbial Nanotechnology: Green Synthesis and Applications / / edited by Mohammad Azam Ansari, Suriya Rehman
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2021
ISBN	981-16-1923-9
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (355 pages)
Collana	Biomedical and Life Sciences Series
Disciplina	660.62
Soggetti	Medicine - Research Biology - Research Microbiology Nanotechnology Chemistry Nanoparticles Biomedical Research Nanoparticle Synthesis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1_Introduction to Microbial synthesis of Nanoparticles: advantages, disadvantages and prospects -- Chapter 2. Prokaryotic and microbial eukaryotic system for the NP synthesis -- Chapter 3. Enzymes involved in the extra and intracellular synthesis of nanoparticles -- Chapter 4. Bacterial synthesis of NPs and their scale-up technologies -- Chapter 5. Fungal biogenesis of NPs and their limitations -- Chapter 6. A Role of virus in nanoparticle synthesis. -- Chapter 7. The Algal biogenesis of NPs -- Chapter 8. Protozoa, an emerging candidate for the synthesis of NPs -- Chapter 9. Industrial Perspective of microbial application for NP synthesis -- Chapter 10. Microbial nanotechnology in treating multidrug resistance pathogens. -- Chapter 11. Microbial nanoparticles for cancer treatment -- Chapter 12. Role of microbial nanotechnology in diagnostic -- Chapter 13. Application of microbial nanotechnology in agriculture -- Chapter 14. Management of plant fungal disease by microbial nanotechnology -- Chapter 15. Microbial nanotechnology for bioremediation of heavy

metals -- Chapter 16. Medical and cosmetic applications of microbial nanotechnology -- Chapter 17. Comparative analysis of cellular internalization propensity between the commercial and microbial assisted nanoparticles.

Sommario/riassunto

This book introduces the principles and mechanisms of the biological synthesis of nanoparticles from microorganisms, including bacteria, fungi, viruses, algae, and protozoans. It presents optimization processes for synthesis of microbes-mediated nanoparticles. The book also reviews the industrial and agricultural applications of microbially-synthesized nanoparticles. It also presents the medical applications of green nanoparticles, such as treating multidrug-resistant pathogens and cancer treatment. Further, it examines the advantages and prospects for the synthesis of nanoparticles by microorganisms. Lastly, it also presents the utilization of microbial-synthesized nanoparticles in the bioremediation of heavy metals.