

1. Record Nr.	UNINA9910484296603321
Titolo	Advanced antimicrobial materials and applications // Inamuddin, Mohd Imran Ahamed, Ram Prasad, editors
Pubbl/distr/stampa	Gateway East, Singapore : , : Springer, , [2021] ©2021
ISBN	981-15-7098-1
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (VII, 421 p. 155 illus., 71 illus. in color.)
Collana	Environmental and Microbial Biotechnology, , 2662-1681
Disciplina	610.28
Soggetti	Biomedical materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Antimicrobial polymers -- Chapter 2. Starch based antimicrobial materials -- Chapter 3. Cellulose-based antimicrobial materials -- Chapter 4. Polymerized ionic liquids as antimicrobial materials -- Chapter 5. Silver composites as antimicrobial materials -- Chapter 6. Natural antimicrobial materials -- Chapter 7. Advanced antimicrobial materials and applications -- Chapter 8. Antimicrobial magnetic nanoparticles: A potential antibiotic Agent in The Era of multi-drug resistance -- Chapter 9. Antifungal, antimycotoxigenic, and antioxidant activity of essential oils and medicinal plant extracts -- Chapter 10. Antibacterial Electrospun nanofibres -- Chapter 11. Plant extracts: antimicrobial properties, mechanisms of action and applications -- Chapter 12. Antimicrobial materials for local drug delivery -- Chapter 13. Antimicrobial membranes for water treatment -- Chapter 14. Antimicrobial fillers for dental restorative materials -- Chapter 15. Molecular imprinting technology: A new approach for antibacterial materials.
Sommario/riassunto	Surface bio-contamination has become a severe problem that contributes to outbreaks of community acquired and nosocomial infections through contiguous fomite transmission of diseases. Every year, thousands of patients die due to nosocomial infections by pathogens. It is therefore essential to develop novel strategies to prevent or improve the treatment of biomaterial concomitant infections. The concept of antimicrobial materials is becoming

increasingly important not only in the hospital and healthcare environments, but also for laboratories, home appliances, and certain industrial applications. Materials are now being developed to prevent the buildup, spread and transfer of harmful microbes, and to dynamically deactivate them. Drawing on research and examples from around the world, this book highlights the latest advances in, and applications of, antibacterial biomaterials for biomedical devices, and focuses on metals with antibacterial coatings/surfaces, antibacterial stainless steels and other commonly used antibacterial materials. It also discusses the role of innovative approaches and provides a comprehensive overview of cutting-edge research on the processing, properties and technologies involved in the development of antimicrobial applications. Given its scope, the book will be of interest to researchers and policymakers, as well as undergraduate and graduate students of biochemistry, microbiology, and environmental chemistry.
