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| 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.

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