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Nota di contenuto	New trends in the antimicrobial agents delivery using nanoparticles / Jose M. Bermudez, Alicia G. Cid, Analia I. Romero, Mercedes Villegas, Natalia Angel Villegas, Santiago D. Palma -- Nanostructures as antimicrobial therapeutics / Niha M. Kulshreshtah, Indrani Jadhav, Meenal Dixit, Nehi Sinha, Divya Shrivastava, Prakash S. Bisen -- Nanoformulation and application of phytochemicals as antimicrobial agents / Jaison Jeevanandam, Yii S. Aing, Yen S. Chan, Sharadwata Pan, Michael K. Danquah -- Antimicrobial activities of metallic and metal oxide nanoparticles from plant extracts / Remya Mohanraj -- Nanogels / Prashant Sahu, Debashree Das, Varsha Kashaw, Arun K. Iyer, Sushil K. Kashaw -- Silver nanoparticles / Jieun Yun, Dong Gun Lee -- Recent advances of nanostructures in antimicrobial therapy / Zhi-Yao He, Xia-Wei Wei, Yu-Quan Wei -- Metals and metal oxides / Shams T. Khan, Abdulaziz A. Al-Khedhairy -- Antimicrobial properties and therapeutic applications of silver nanoparticles and nanocomposites / Ricardo J.B. Pinto, Maryam Nasirpour, Joana Carrola, Helena Oliviera, Carmen S.R. Freire, Iola F. Duarte -- Drug resistance in tuberculosis / Nitendra Kumar, Bhaskar Das, Sanjukta Patra -- Nanomaterials as enhanced antimicrobial agent/activity-enhancer for transdermal applications / Sangeeta N. Kale, Rohini Kitture, Sougata Ghosh, Balu A. Chopade,

Jatinder V. Yakhmi -- Nanosize dendrimers / Ugir H. Sk -- Silver nanostructures in medicine / Hillary M. Sweet, Patricia L. Nadworny, Sally Fung, J. Barry Wright, Robert E. Burrell -- Nanoparticles in antiviral therapy / Marija Milovanovic, Aleksandar Arsenijevic, Jelena Milovanovic, Tatjana Kanjevac, Nebojsa Arsenijevic -- Applications of metallic nanoparticles in antimicrobial therapy / Hinojal Zazo, Carmen G. Millan, Clara I. Colino, Jose M. Lanao -- Nanostructures for antimicrobial therapy / Abel M. Maharramov, Mahammadali A. Ramazanov, Ulviyya A. Hasanova -- Nanomedicine / Anuj Garg, Kripal Bhalala, Devendra Singh Tomar, Muhammad Wahajuddin -- Toxicity of nanoparticles / Guido Crisponi, Valeria M. Nurchi, Joanna I. Lachowicz, Massimiliano Peana, Serenalla Medici, Maria Antomietta Zoroddu.

Sommario/riassunto

Antimicrobial Nanoarchitectonics: From Synthesis to Applications brings together recent research in antimicrobial nanoparticles, specifically in the sustained and controlled delivery of antimicrobials. Particular attention is given to i) reducing the side effects of antibiotics, ii) increasing the pharmacological effect, and iii) improving aqueous solubility and chemical stability of different antimicrobials. In addition, antimicrobial nanoparticles in drug delivery are discussed extensively. The book also evaluates the pros and cons of using nanostructured biomaterials in the prevention and eradication of infections. It is an important reference resource for materials scientists and bioengineers who want to learn how nanomaterials are used in antimicrobial therapy. - Provides readers with the information necessary to select the appropriate bionanomaterial to solve particular infection problems- Includes case studies, showing how particular bionanomaterials have been used to cure infections- Explains the central role that nanotechnology plays in modern antimicrobial therapy- Evaluates the pros and cons of using nanostructured biomaterials in the prevention and eradication of infections