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	Titolo	How to Overcome the Antibiotic Crisis : Facts, Challenges, Technologies and Future Perspectives / / edited by Marc Stadler, Petra Dersch
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
	Edizione	[1st ed. 2016.]
	Descrizione fisica	1 online resource (XII, 496 p.)
	Collana	Current Topics in Microbiology and Immunology, , 2196-9965 ; ; 398
	Disciplina	610
	Soggetti	Medical microbiology Diseases Bacteria Pharmacology Medicinal chemistry Veterinary medicine Medical Microbiology Medicinal Chemistry Veterinary Science
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references at the end of each chapters.
	Nota di contenuto	Tackling threats and future problems of multidrug-resistant bacteria.- Emergence and spread of antimicrobial resistance: recent insights from bacterial population genomics -- Epidemiology of Staphylococcus aureus nasal carriage patterns in the community -- Diagnostics and resistance profiling of bacterial pathogens -- Use of antibiotics and antimicrobial resistance in veterinary medicine as exemplified by the swine pathogen Streptococcus suis.-Antibiotics and the intestinal microbiome: individual responses, resilience of the ecosystem and the susceptibility to infections -- Anti-virulence strategies to target bacterial infections -- Strategies to block bacterial pathogenesis by interference with motility and chemotaxis -- New horizons in the development of novel needle-free immunization strategies to increase vaccination efficacy -- History of antibiotics research -- Actinobacteria and Myxobacteria – Two of the most important bacterial resources for

	novel antibiotics -- Exploitation of fungal biodiversity for discovery of novel antibiotics -- Strategies for the discovery and development of new antibiotics from natural products: Three Case Studies -- New structural templates for clinically validated and novel targets in antimicrobial drug research and development -- Synthesis of antibiotics -- Antibiotics clinical development and pipeline -- Anti-infectives in drug delivery—overcoming the Gram-negative bacterial cell envelope.
Sommario/riassunto	This volume focuses on antibiotics research, a field of topical significance for human health due to the worrying increase of nosocomial infections caused by multi-resistant bacteria. It covers several basic aspects, such as the evolution of antibiotic resistance and the influence of antibiotics on the gut microbiota, and addresses the search for novel pathogenicity blockers as well as historical aspects of antibiotics. Further topics include applied aspects, such as drug discovery based on biodiversity and genome mining, optimization of lead structures by medicinal chemistry, total synthesis and drug delivery technologies. Moreover, the development of vaccines as a valid alternative therapeutic approach is outlined, while the importance of epidemiological studies on important bacterial pathogens, the problems arising from the excessive use of antibiotics in animal breeding, and the development of innovative technologies for diagnosing the “bad bugs” are discussed in detail. Accordingly, the book will appeal to researchers and clinicians alike.