

# Emerging Trends in Antibacterial Discovery

## Answering the Call to Arms

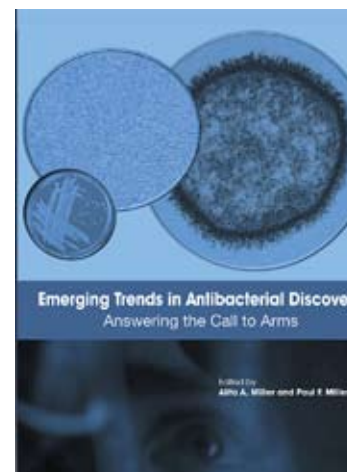
Edited by: **Alita A. Miller and Paul F. Miller**

*Antibacterials Research Unit, Pfizer Worldwide R&D, Groton, CT 06340 USA*

viii + 460 pp, August 2011

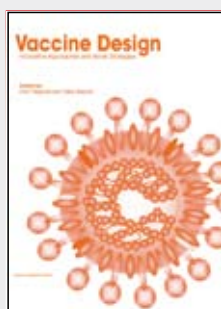
ISBN: 978-1-904455-89-9, \$360/£180

In this book, respected international experts summarize the most important concepts and pioneering strategies currently being used to develop novel antibacterials. The book opens with chapters on cellular processes that could be used as novel antibacterial targets. Examples include cell division, efflux pumps, metabolite-sensing riboswitches and bacterial secretion systems. These are followed by excellent chapters on the identification of new, naturally occurring antibacterial agents, including phage and biosynthetically engineered compounds. Understanding the host-microbe interaction and microbial communities and how they can be exploited to develop new antibacterial strategies is discussed in subsequent chapters. Other topics included are: antibacterial vaccines, host defence peptides, antibodies, within-host models, and diagnostics. Essential reading for everyone working in antibacterial research.



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## Vaccine Design: Innovative Approaches and Novel Strategies

Edited by: **Rino Rappuoli and Fabio Bagnoli**

*Novartis Vaccines and Diagnostics, Research, 53100 Siena, Italy*

xii + 380 (plus colour plates) pp, February 2011

ISBN: 978-1-904455-74-5, \$360/£180

Expert international authors critically review the current cutting-edge research in vaccine design and development. Particular emphasis is given to new approaches and technologies. The book has been divided into two parts. The first part reviews the technologies and approaches used to identify, generate and test new vaccines. The second part focuses on the development of new vaccines to replace or complement currently available products or for diseases against which prophylactic strategies are missing. Essential reading for everyone with an interest in vaccine R & D.

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• **Introduction** • **Chapter 1:** Overview of Vaccine Strategies. • **Chapter 2:** Designing Vaccines in the Era of Genomics. • **Chapter 3:** New Analytical Approaches for Measuring Protective Capacity of Antibodies. • **Chapter 4:** New Frontiers in the Chemistry of Glycoconjugate Vaccines. • **Chapter 5:** Bacterial Protein Toxin Used in Vaccines. • **Chapter 6:** Adjuvants. • **Chapter 7:** Mucosal Vaccines. • **Chapter 8:** Intralymphatic Vaccination. • **Chapter 9:** The First Vaccine Obtained Through Reverse Vaccinology: The Serogroup B Meningococcus Vaccine. • **Chapter 10:** Vaccines for Neglected Diseases. • **Chapter 11:** Vaccines to Combat *Pseudomonas aeruginosa* Infections in Immunocompromised Patients. • **Chapter 12:** Nosocomial infections: *Staphylococcus aureus*. • **Chapter 13:** Toward the Development of a Universal Vaccine Against Group B *Streptococcus*. • **Chapter 14:** Vaccines against *Streptococcus pneumoniae*. • **Chapter 15:** Veterinary Vaccines with a Focus on Bovine Mastitis. • **Chapter 16:** Vaccines Against Newly Emerging Viral Diseases: The Example of SARS.

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*"useful to those in many areas of research" (Doodys)*

The antibacterial spectrum within this class has recently been extended to begin to include serious Gram negative pathogens such as *Pseudomonas aeruginosa*, *Acinetobacter baumannii*, and *Klebsiella pneumoniae*. In spite of this recent technical progress, adverse economics associated with antibacterial R&D over the last 20 years has diminished industry's ability to commit the resources and perseverance needed to bring new-class agents to launch. Consequently, a number of recent efforts in the ATPase class have been derailed by organizational rather than scientific factors. Novel Antibacterial Drug Discovery. Related Conference of Modern antibiotics: Emerging trends, Barriers and Opportunities. September 18-19, 2019. 4th Antibodies, Antibiotics and Bio Therapeutics Congress: R&D, Market and B2B. Pathogenic antibiotic resistant bacteria pose one of the most important health challenges of the 21st century. The overuse and abuse of antibiotics coupled with the natural evolutionary processes of bacteria has led to this crisis. Only incremental advances in antibiotic development have occurred over the last 30 years. The Quest for Novel Antimicrobial Compounds: Emerging Trends in Research, Development, and Technologies. by Pavan K. Mantravadi 1, Karunakaran A. Kalesh 2, Renwick C. J. Dobson 3, Andr  O. Hudson 4,\* and Anutthaman Parthasarathy 4,\* 1.