

ANNALS *of* THE NEW YORK ACADEMY OF SCIENCES

DIRECTOR AND EXECUTIVE EDITOR

Douglas Braaten

PROJECT MANAGER

Steven E. Bohall

The New York Academy of Sciences
7 World Trade Center
250 Greenwich Street, 40th Floor
New York, NY 10007-2157

annals@nyas.org
www.nyas.org/annals

THE NEW YORK ACADEMY OF SCIENCES BOARD OF GOVERNORS SEPTEMBER 2010 - SEPTEMBER 2011

CHAIR

John E. Sexton

PRESIDENT

Ellis Rubinstein [ex officio]

CHAIRMAN EMERITUS

Torsten N. Wiesel

VICE-CHAIR

Kenneth L. Davis

SECRETARY

Larry Smith [ex officio]

HONORARY LIFE GOVERNORS

Karen E. Burke
Herbert J. Kayden
John F. Niblack

TREASURER

Robert Catell

GOVERNORS

Seth F. Berkley
Len Blavatnik
Nancy Cantor
Martin Chalfie
Robin L. Davisson
Mikael Dolsten
Brian Ferguson
Jay Furman
Alice P. Gast
Brian Greene

Thomas L. Harrison
Steven Hochberg
Toni Hoover
John E. Kelly III
Mehmood Khan
Abraham Lackman
Bruce S. McEwen
Russell Read
Jeffrey D. Sachs
David J. Skorton
George E. Thibault

Iris Weinshall
Anthony Welters
Frank Wilczek
Michael Zigman
Nancy Zimpher

INTERNATIONAL GOVERNORS

Manuel Camacho Solis
Gerald Chan
Rajendra K. Pachauri
Paul Stoffels

ISSUE

Antimicrobial Therapeutics Reviews

ISSUE EDITOR

Karen Bush

TABLE OF CONTENTS

- 1** The coming of age of antibiotics: discovery and therapeutic value
Karen Bush
- 5** Challenges of antibacterial discovery revisited
Michael N. Gwynn, Alison Portnoy, Stephen F. Rittenhouse, and David J. Payne
- 20** Structure-based design of anti-infectives
Anil K. Agarwal and Colin W. G. Fishwick
- 46** Immunomodulators as adjuvants for vaccines and antimicrobial therapy
Erin F. Nicholls, Laurence Madera, and Robert E. W. Hancock
- 62** *Clostridium difficile*: progress and challenges
John G. Bartlett
- 70** Potential impact of rapid diagnostic tests on improving antimicrobial use
Fred C. Tenover
- 81** Antibiotic heterogeneity: from concept to practice
A. M. Bal, A. Kumar, and I. M. Gould
- 92** The interface between veterinary and human antibiotic use
Thomas R. Shryock and Amy Richwine
- Appendix:** Table of contents and selected articles from *Annals of the New York Academy of Sciences* Volume 48, published September 27, 1946.
- 106** Table of Contents from Volume 48

- 107** Antibiotic substances—contribution of the microbiologist
Selman A. Waksman (original publication September 27, 1946)
- 112** Production of antibiotic substances by actinomycetes
Selman A. Waksman, Albert Schatz, and Donald M. Reynolds (original publication September 27, 1946)
- 125** Antibiotic substances produced by bacteria
Jackson W. Foster and H. Boyd Woodruff (original publication September 27, 1946)