

Preface

The editors would like to dedicate this text to the late Dr. Bill Costerton, who is regarded as “The Father of Biofilm.” Bill spent the good part of his career working tirelessly to alert and convince the medical community about the existence and importance of biofilms. The fact that many medical specialties are now addressing the “biofilm problem” is in no small degree because of his contributions and those of the scientists he trained and mentored.

Biofilms comprise microbial microcolonies adhered to a surface and surrounded by a sticky exopolysaccharide matrix. Once adherent, microbes multiply and anchor themselves in quite intricate structures, which appear to allow for communication and transfer of nutrients, waste, and signaling compounds. Microbial biofilms constitute a major cause of chronic infections, especially in association with medical devices. Biofilms are extremely difficult to eradicate with conventional antibiotics and therefore represent an enormous healthcare burden.

While the “biofilm concept” has, for the most part, become accepted by the medical community, clinicians are left with the dilemma of how to diagnose and treat these infections. While there are a number of books highlighting research progress on understanding mechanisms of biofilm establishment and their roles in disease, there are currently no existing resources which provide a comprehensive review of the available antibiofilm options.

The purpose of this book is to provide a survey of the recent progress that has been made on the development of antibiofilm agents. Biofilm experts from across the globe have contributed and related their expertise on topics ranging from diagnosing and characterizing biofilm infections to treatment options and finally regulatory challenges to the commercial development of antibiofilm drugs. We intend for this book to serve as a valuable resource for medical professionals seeking to treat biofilm-related disease, academic and industry researchers interested in drug discovery, and instructors who teach microbial pathogenesis and medical microbiology.

Lubbock, TX
Aligarh, Uttar Pradesh, India
November 2013

Kendra P. Rumbaugh
Iqbal Ahmad

Antibiofilm Agents

From Diagnosis to Treatment and Prevention

Rumbaugh, K.P.; Ahmad, I. (Eds.)

2014, IX, 497 p. 80 illus., 35 illus. in color., Hardcover

ISBN: 978-3-642-53832-2