
Bacteriophages

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Editors

Bacteriophages

Biology, Technology, Therapy

Volume 2

With 173 Figures and 44 Tables

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Preface

As the ongoing crisis of antimicrobial resistance (AMR) threatens to bring an end to the era of routine control of bacterial diseases, there is great interest in developing other approaches to controlling such infections. One of the oldest of these, the use of bacteriophages (viruses that can target and destroy bacteria) as therapeutic agents, is experiencing a resurgence of interest and is now considered a promising approach to countering AMR. First developed 100 years ago, this approach, known as phage therapy, was set aside in Western Europe and the USA when the use of chemical antibiotics became widespread. Now, the pressing need for new ways to control such resistant bacteria is resulting in very real and rapid progress in developing phage therapy, alongside a range of technologies based around bacteriophages, in medicine and elsewhere.

Bacteriophages: Biology, Technology, Therapy is intended to cover all major, current aspects of work with bacteriophages, from their basic biology to clinical trials of phage therapeutics and from early history to nanotechnology. In so doing, the intention is to provide a single, readily citable source covering the biology of bacteriophages and bacteriophage infection, their use across a wide range of technologies, and their evolving use as therapeutic agents.

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About the Editors

Dr. David R. Harper has a scientific background in virology and microbiology and is the CEO of Evolution Biotechnologies. He was the founder, CEO, and CSO of Biocontrol Limited and CSO of AmpliPhi Biosciences and managed the first modern regulated clinical trial to demonstrate the efficacy of bacteriophages. He is a member of the Alternatives to Antibiotics panel, a collaboration between the Wellcome Trust and the UK Department of Health.

Dr. Stephen T. Abedon has been a member of the faculty of the Ohio State University, Department of Microbiology, for over 25 years. He has been studying bacteriophages for 35-plus years and has over 100 phage-based publications including 9 monographs or equivalents on phages which he has edited (1), co-edited (7), or single authored (1), along with 3 more edited volumes currently in progress. Additional information and resources can be found at abedon.phage.org.

Dr. Benjamin H. Burrowes received his Ph.D. in medical microbiology from Texas Tech University Health Sciences Center in 2010, where his research focus was the development of therapeutic bacteriophages with extended host range using in vitro evolution. Upon leaving Texas, Dr. Burrowes worked at Biocontrol Inc. (now AmpliPhi Biosciences Corporation) developing multiple human phage therapy preparations targeting several major bacterial pathogens. Ben left GeneWEAVE some time ago and now works as Senior Consultant at Evolution Biotechnologies, Georgetown, TX, USA, working on novel phage therapeutics, and as a Senior Scientist at the Center for Phage Technology, Texas A&M University, College Station, TX, USA.

Dr. Malcolm L. McConville is a microbiologist with over 30 years industrial experience. Having gained a B.Sc. (Cardiff University, UK) and Ph.D. (University of Reading, UK), he has worked in the contract biomedical research industry and for AmpliPhi Biosciences Corporation (formerly Biocontrol Ltd) on the commercial development of bacteriophage therapy products. He is currently Trials Director at Evolution Biotechnologies.

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