

Preface

Traditional insight into the process of infection has stemmed largely either from conventional bulk ensemble average techniques *in vitro* or from imaging methods either fixed tissue samples or on living cells but restricted to standard limits of optical resolution. However, recently many state-of-the-art interdisciplinary techniques of modern biophysics have emerged which enable us to understand details of the mechanisms of infection far more clearly than before. Essentially, many of these new methods enhance both the spatial and temporal resolutions of data acquisition. This has enabled us to probe *dynamic* processes of infection directly, and at a precision comparable to the molecular length scale of the key processes involved. These emerging interfacial tools of biophysics include, for example, a range of single-molecule biophysics methods as well as super-resolution microscopy techniques. This volume of *The Biophysics of Infection*, in the *Advances in Experimental Medicine and Biology* series includes new protocols, reviews and original research articles for such emerging experimental and theoretical approaches, which have resulted in a substantial improvement to our understanding of the complex processes of infection.

December 2015

Mark C. Leake

Biophysics of Infection

Leake, M.C. (Ed.)

2016, IX, 362 p. 87 illus., 76 illus. in color., Hardcover

ISBN: 978-3-319-32187-5