

# Lyme Disease and Relapsing Fever Spirochetes

## Genomics, Molecular Biology, Host Interactions and Disease Pathogenesis

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**Published:** January 2021. **Pages:** c. 900

**ISBN:** Book: 978-1-913652-61-6. Ebook: 978-1-913652-62-3

**Price:** £199, \$250

**Published by:** Caister Academic Press [www.caister.com](http://www.caister.com)

Lyme disease (Lyme borreliosis) is the most prevalent vector-borne illness in the United States and Europe and a growing threat to global health. In addition Lyme disease is considered a model system of emerging infectious diseases. The book *Borrelia: Molecular Biology, Host Interaction and Pathogenesis* published in 2010 was the first state-of-the-art reference work covering the myriad, interlaced facets of the enzootic disorders caused by pathogenic *Borrelia*. This current volume, by the same editors, builds on the previous work and contains a vast amount of new information, a wider scope, and increased coverage of genomics, genetics, evolutionary biology, vector biology, physiology, pathogenicity, immune response, and evasion.

Written by renowned scientists who have made seminal contributions to the field, this book contains an expansive treatment of the options to track live spirochetes and evaluate gene expression in ticks and mice, provides insights into the workings of the flagellar motor, presents up-to-date research on the modulation of gene expression, and reviews recent studies on the network of regulatory pathways. The volume highlights and describes in detail the tremendous advances in understanding of the *Borrelia* genus at the molecular and cellular level as well as the pathogenesis of Lyme disease and relapsing fever.

This comprehensive volume is indispensable for anyone involved in *Borrelia* and Lyme disease research and is highly recommended for microbiologists, immunologists, and physicians with an interest in spirochetes, vector-borne illness, or emerging infectious diseases. The book is a recommended reference volume for all microbiology libraries.

**Chapter 1.** The World-Wide Saga of Lyme Borreliosis (*Jorge L. Benach and Juan Carlos García-Moncó*)

**Chapter 2.** Multipartite Genome of Lyme Disease *Borrelia*: Structure, Variation and Prophages (*Ira Schwartz, Gabriele Margos, Sherwood R. Casjens, Wei-Gang Qiu and Christian H. Eggers*)

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**Chapter 7.** Structure, Function, Biogenesis and Maintenance of the *Borrelia* Cell Envelope (*Wolfram R. Zückert, Brandon L. Jutras, Alvaro M. Toledo and Sven Bergström*)

**Chapter 8.** Dancing with the Star: *Borrelia burgdorferi*, a Solo Dancer with All the Right Moves (*Ching Woon Sze, Hui Xu, Md A. Motaleb, Charles W. Wolgemuth, Jun Liu, Nyles W. Charon and Chunhao Li*)

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