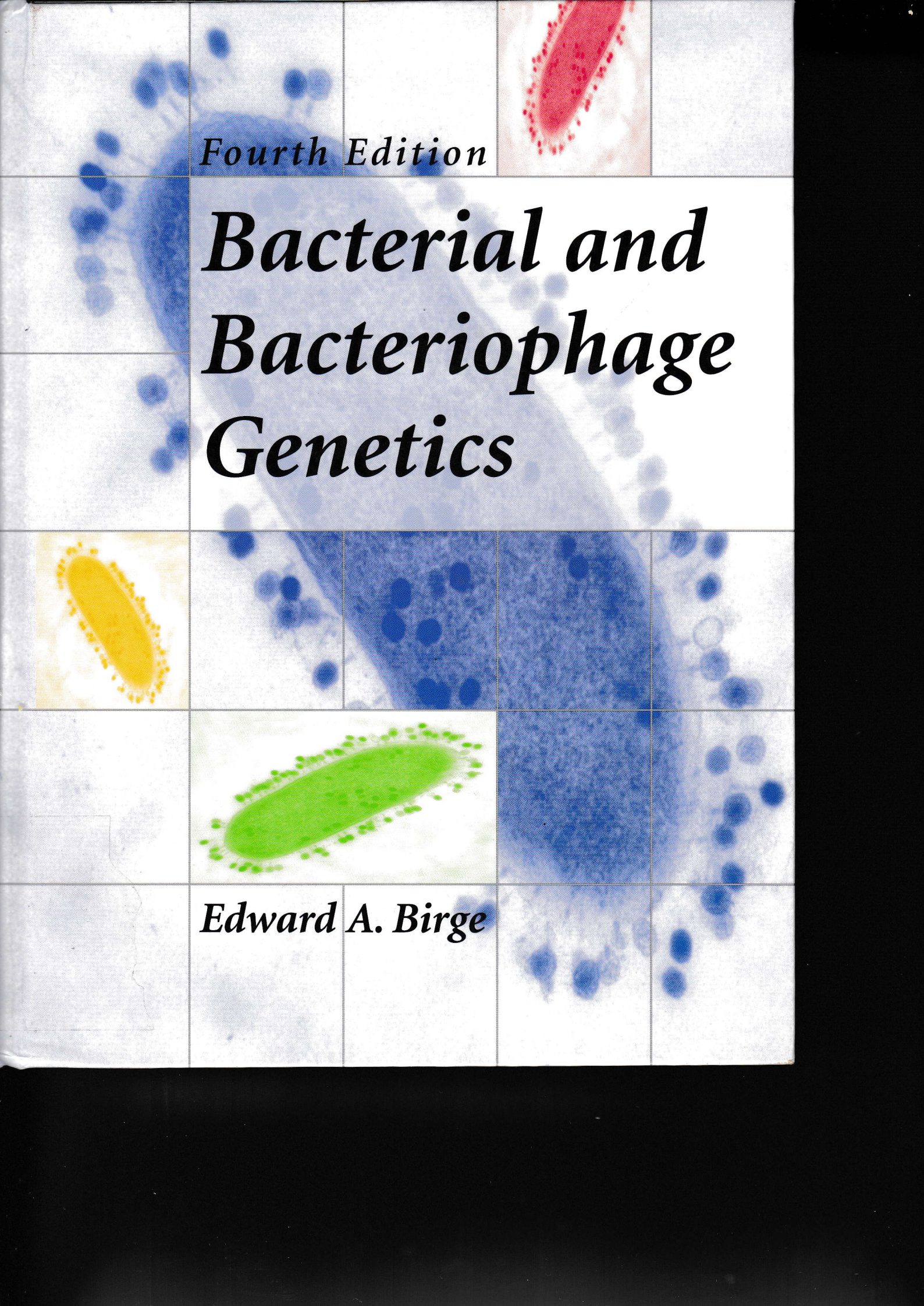


The background of the book cover is a grid of microscopic images. The top row shows a blue-stained bacterium on the left and a red-stained bacterium on the right. The middle row features a large, central blue-stained bacterium. The bottom row includes a yellow-stained bacterium on the left, a green-stained bacterium in the center, and a blue-stained bacterium on the right. Numerous small, blue, circular bacteriophages are scattered throughout the grid, particularly around the larger bacterial cells.

Fourth Edition

Bacterial and Bacteriophage Genetics

Edward A. Birge



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Fourth Edition

Genetic investigations and manipulations of bacteria and bacteriophage have made vital contributions to our basic understanding of living cells and to the development of molecular biology and biotechnology. *Bacterial and Bacteriophage Genetics* is a survey of the genetics of bacteria and their viruses, and it provides students with a comprehensive introduction to this rapidly changing subject. The book is written for upper-class undergraduate and beginning graduate students, particularly those who have already had an introductory genetics course. A beginning course in microbiology would be helpful, but is not essential.

This fourth edition has been extensively revised to reflect recent advances in the field. All of the major topics in modern bacterial and bacteriophage genetics are presented, including mutations and mutagenesis (including adaptive mutagenesis); genetics of lytic and temperate bacterial viruses; transduction; genetic transformation; conjugation and plasmids; regulatory systems; recombination and repair; probability analysis in bacterial genetic experiments; applied basic genetics; and evolutionary genetics. The new edition has been brought fully up to date and now includes end-of-chapter questions, in addition to "Thinking Ahead" and "Applications" boxes throughout the book. A full glossary of terms is also included.



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