4TH EDITION

Molecular Genetics of Bacteria

Larry Snyder, Joseph E. Peters, Tina M. Henkin, and Wendy Champness

The single most comprehensive and authoritative textbook on bacterial molecular genetics

This revised edition of *Molecular Genetics of Bacteria* provides relevant background information, descriptions of important experiments, and advanced material relevant to current applications of molecular genetics, including conclusions from and applications of genomics; the relationships among recombination, replication, and repair and the importance of organizing sequences in DNA; the mechanisms of regulation of gene expression; the newest advances in bacterial cell biology; and the coordination of cellular processes during the bacterial cell cycle. The topics are integrated throughout with biochemical, genomic, and structural information, allowing readers to gain a deeper understanding of modern bacterial molecular genetics and its relationship to other fields of modern biology.

Although the text is centered on the most-studied bacteria, *Escherichia coli* and *Bacillus subtilis*, many examples are drawn from other bacteria of experimental, medical, ecological, and biotechnological importance. The book's many useful features include

- A summary of main points at the end of each chapter
- Text boxes to help students make connections to relevant topics related to other organisms, including humans
- Discussion questions and problem sets (with answers provided in the back of the book)
- Suggested readings for each chapter
- A glossary of terms highlighted in the text

While intended as an undergraduate or beginning graduate textbook, *Molecular Genetics of Bacteria* is an invaluable reference for anyone working in the fields of microbiology, genetics, biochemistry, bioengineering, medicine, molecular biology, and biotechnology.

About the Authors

Larry (Loren R.) Snyder is a professor emeritus of microbiology and molecular genetics at Michigan State University, where he taught for almost 40 years. Dr. Snyder received a PhD in biophysics at the University of Chicago.

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I teach a literature-based, graduate-level course entitled Prokaryotic Molecular Biology. Many students request a textbook for background reading, and this is the one I always recommend. The material is clearly and logically presented, and no other book covers the topic as thoroughly.

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