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Nota di contenuto	Contents; Preface; Preface to the First Edition; Introduction; Contributors; Section 1: DNA METABOLISM; CHAPTER 1. Prokaryotic DNA Replication; CHAPTER 2. DNA Repair Mechanisms and Mutagenesis; CHAPTER 3. Gene Expression and Its Regulation; CHAPTER 4. Bacteriophage Genetics; CHAPTER 5. Bacteriophage and Its Relatives; CHAPTER 6. Single-Stranded DNA Phages; CHAPTER 7. Restriction-Modification Systems; CHAPTER 8. Recombination; CHAPTER 9. Molecular Applications; Section 2: GENETIC RESPONSE CHAPTER 10. Genetics of Quorum Sensing Circuitry in <i>Pseudomonas aeruginosa</i> : Implications for Control of Pathogenesis, Biofilm Formation, and Antibiotic/Biocide ResistanceCHAPTER 11. Endospore Formation in <i>Bacillus subtilis</i> : An Example of Cell Differentiation by a Bacterium; CHAPTER 12. Stress Shock; CHAPTER 13. Genetic Tools for Dissecting Motility and Development of <i>Myxococcus xanthus</i> ; CHAPTER 14. Agrobacterium Genetics; CHAPTER 15. Two-Component Regulation; CHAPTER 16. Molecular Mechanisms of Quorum Sensing; Section 3:

## GENETIC EXCHANGE

CHAPTER 17. Bacterial Transposons-An Increasingly Diverse Group of Elements  
CHAPTER 18. Transformation; CHAPTER 19. Conjugation;  
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### Sommario/riassunto

In accordance with its predecessor, the completely revised and expanded Second Edition of Modern Microbial Genetics focuses on how bacteria and bacteriophage arrange and rearrange their genetic material through mutation, evolution, and genetic exchange to take optimal advantage of their environment. The text is divided into three sections: DNA Metabolism, Genetic Response, and Genetic Exchange. The first addresses how DNA replicates, repairs itself, and recombines, as well as how it may be manipulated. The second section is devoted to how microorganisms interact with their environment