1. Record Nr. UNINA9910822190903321

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Titolo	Structure and function of the bacterial genome / / Charles J. Dorman
Pubbl/distr/stampa	Hoboken, New Jersey : , : Wiley-Blackwell, , [2020] ©2020
ISBN	1-119-30968-9 1-119-30967-0 1-119-30969-7
Descrizione fisica	1 online resource (412 pages)
Disciplina	572.86293
Soggetti	Bacterial genomes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	The bacterial genome : where the genes are -- Conservation and evolution of the dynamic genome -- Gene control : transcription and its regulation -- Gene control : regulation at the RNA level -- Gene control : regulation at the protein level -- Gene control and bacterial physiology -- Gene control : global regulation by H-NS -- An integrated view of genome structure and function.
Sommario/riassunto	"The book aims to integrate information from the very latest research on bacterial chromosome and nucleoid architecture, whole-genome analysis, cell signaling and gene expression control with well-known gene regulation paradigms from model organisms to give the reader a picture of how information flows from the environment to the gene, modulating its expression and influencing the competitive fitness of the microbe. The general public is aware that bacteria can come in benign forms and forms that pose threats to health. This book will explore the governance of the expression of the genes that make a bacterium what it is: a friend or foe to the human/animal/plant host. The reader will learn that the factors that govern the expression of genes by turning them on or off often contribute to the organization of the genetic material within the cell. Our understanding of the architecture of the genome has advanced rapidly in recent years and we are learning more and more about the forces that work to keep

genomes the way they are, to change them and the consequences of change for the life of the evolving bacterium. These conservative and disruptive forces will be described, together with their influence on gene expression. The book will also review the basics of gene expression control, bringing the topic up-to-date with information about small RNAs, RNAs that sense chemical signals and the role of DNA as a regulatory factor as well as a carrier of genetic information and will consider where these genes are placed in the core genome and how they are regulated using a combination of imported control proteins and pre-existing ones. The reader will also gain a clearer understanding of the rules that govern microbial cells and how we can exploit this knowledge to enhance the benefits offered by benign microbes, limit the damage caused by malign ones and begin the process of synthesizing artificial ones to meet needs in human society" --Provided by publisher.