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Titolo	DNA Traffic in the Environment // edited by Hiromi Nishida, Taku Oshima
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-3411-0
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (VII, 278 p. 39 illus., 25 illus. in color.)
Disciplina	579.135
Soggetti	Microbial genetics Microbial genomics Microbial ecology Evolution (Biology) Biodiversity Drug resistance Microbial Genetics and Genomics Microbial Ecology Evolutionary Biology Drug Resistance
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Bacteria -- Functions of archaeal nucleoid proteins: archaeal silencers are still missing -- Acquired and innate immunity in prokaryote define their evolutionary story -- Mobile genetic elements -- Viruses of the archaea and evolution of life -- Overlooked "broad-host range vector particles" (VPs) in the environ -- Bacteria-virus interaction -- Plasmids and their hosts -- Bacterial transposable elements -- RNA-mediated crosstalk between bacterial host genome and foreign genetic elements -- Extracellular DNA in seawater and marine sediment -- Acquiring phenotypic diversification on genomic diversification.
Sommario/riassunto	This book comprehensively discusses our current understanding of the role and biological mechanisms of horizontal transfer of genetic elements in the environment, which has been important in the evolution of prokaryotes (archaea and bacteria). Horizontal transfer of

genetic elements generates variations of prokaryotes and their genomes. Comparative studies of genomes revealed that it frequently occurred during archaeal and bacterial evolution. The book introduces a variety of studies related to horizontal gene transfer, gene silencing, plasmids, phages, transposons, and the emergence of microbes that degrade man-made xenobiotics and have antimicrobial resistance. Written by leading researchers in DNA traffic, the book is a valuable guide to horizontal transfer for both young scientists and experts in the field.
