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Titolo	Foundations of comparative genomics [[electronic resource] /] / Arcady R. Mushegian
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Academic Press, c2007
ISBN	1-281-03696-X 9786611036966 0-08-054609-9
Descrizione fisica	1 online resource (276 p.)
Disciplina	572.8/6 22 572.86
Soggetti	Genomics Gene mapping Physiology, Comparative
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 238-257) and index.
Nota di contenuto	The beginning of computational genomics -- Finding sequence similarities -- Homology: can we get it right? -- Getting ready for the era of comparative genomics: the importance of viruses -- The first fact of comparative genomics: protein sequences are remarkably resilient in evolution -- The second fact of comparative genomics: functional convergence at the molecular level -- Prediction of function and reconstruction of metabolism from genomic data: homology-based approaches -- Prediction of function and reconstruction of metabolism: post-homology approaches -- Structural genomics: what does it tell us about life? -- How many protein families are there? -- Phylogenetic inference and the era of complete genomes -- Two stories about evolution -- Minimal and ancestral genomes -- Comparative genomics and systems biology.
Sommario/riassunto	This book provides an overview of computational analysis of genes and genomes, and of some most notable findings that come out of this work. Foundations of Comparative Genomics presents a historical perspective, beginning with early analysis of individual gene sequences, to present day comparison of gene repertoires encoded by completely

sequenced genomes. The author discusses the underlying scientific principles of comparative genomics, argues that completion of many genome sequences started a new era in biology, and provides a personal view on several state-of-the-art issues, such as