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Nota di contenuto	Evolutionary genomics leads the way / David Penny & Lesley J. Collins -- Current approaches to phylogenomic reconstruction / Denis Baurain & Herve Philippe -- The universal tree of life and the Last Universal Cellular Ancestor : revolution and counterrevolutions / Patrick Forterre -- Eukaryotic evolution : the importance of the stem group / Anthony M. Poole -- The role of information in evolutionary genomics of bacteria / Antoine Danchin & Agnieszka Sekowska -- Evolutionary genomics of yeasts / Bernard Dujon -- Genotypes and phenotypes in the evolution of molecules / Peter Schuster -- Genome evolution studied through protein structure / Philip E. Bourne ... [et al.] -- Chromosomal rearrangements in evolution / Hao Zhao & Guillaume Bourque -- Molecular structure and evolution of genomes / Todd A. Castoe, A. P. Jason de Koning, & David D. Pollock -- The evolution of protein material costs / Jason G. Bragg & Andreas Wagner -- Protein domains as evolutionary units / Andrew D. Moore & Erich Bornberg-Bauer -- Domain family analyses to understand protein function evolution / Adam James Reid ... [et al.] -- Noncoding RNA / Alexander Donath ... [et al.] -- Evolutionary genomics of microRNAs and their

relatives / Andrea Tanzer ... [et al.] -- Phylogenetic utility of RNA structure : evolution's arrow and emergence of early biochemistry and diversified life / Feng-Jie Sun, Ajith Harish, & Gustavo Caetano-Anolles -- A hitchhiker's guide to evolving networks / Charles G. Kurland & Otto G. Berg -- Evolution of metabolic networks / Eivind Almaas -- Single-gene and whole-genome duplications and the evolution of protein-protein interaction networks / Grigoris Amoutzias & Yves Van de Peer -- Modularity and dissipation in evolution of macromolecular structures, functions, and networks / Gustavo Caetano-Anolles, Liudmila Yafremava, & Jay E. Mittenthal.

Sommario/riassunto

A comprehensive, authoritative look at an emergent area in post-genomic science, Evolutionary genomics is an up-and-coming, complex field that attempts to explain the biocomplexity of the living world. Evolutionary Genomics and Systems Biology is the first full-length book to blend established and emerging concepts in bioinformatics, evolution, genomics, and structural biology, with the integrative views of network and systems biology. Three key aspects of evolutionary genomics and systems biology are covered in clear detail: the study of genomic history, i.e., understanding organisma