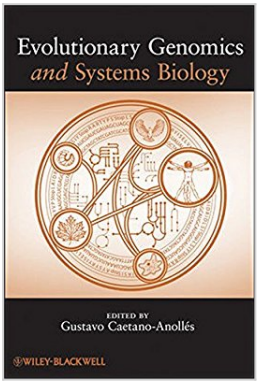

Evolutionary Genomics and Systems Biology

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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 organismal evolution at the genomic level; the study of macromolecular complements, which encompasses the evolution of the protein and RNA machinery that propels life; and the evolutionary and dynamic study of wiring diagrams—macromolecular components in interaction—in the context of genomic complements. The book also features:

- A solid, comprehensive treatment of phylogenomics, the evolution of genomes, and the evolution of biological networks, within the framework of systems biology
- A special section on RNA biology—translation, evolution of structure, and micro RNA and regulation of gene expression
- Chapters on the mapping of genotypes to phenotypes, the role of information in biology, protein architecture and biological function, chromosomal rearrangements, and biological networks and disease
- Contributions by leading authorities on each topic

Evolutionary Genomics and Systems Biology is an ideal book for students and professionals in genomics, bioinformatics, evolution, structural biology, complexity, origins of life, systematic biology, and organismal diversity, as well as those individuals interested in aspects of biological sciences as they interface with chemistry, physics, and computer science and engineering.

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Editorial Review

From the Back Cover
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Gustavo Caetano-Anollés, PhD, is Professor in the Department of Crop Sciences at the University of Illinois in Urbana-Champaign, Illinois. He has more than 150 well-cited original research publications in areas related to DNA technology and genomics, and holds half a dozen US patents in various areas of DNA science and biotechnology. His successful book, *DNA Markers: Protocols, Applications, and Overviews*, was published by Wiley in 1997.

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