**DESCRIPTION**

Gene duplication has long been believed to have played a major role in the rise of biological novelty through evolution of new function and gene expression patterns. The first book to examine gene duplication across all levels of biological organization, *Evolution after Gene Duplication* presents a comprehensive picture of the mechanistic process by which gene duplication may have played a role in generating biodiversity.

Key Features:

- Explores comparative genomics, genome evolution studies and analysis of multi-gene families such as *Hox*, globins, olfactory receptors and MHC (immune system)

- A complete post-genome treatment of the topic originally covered by Ohno’s 1970 classic, this volume extends coverage to include the fate of associated regulatory pathways

- Taps the significant increase in multi-gene family data that has resulted from comparative genomics

- Comprehensive coverage that includes opposing theoretical viewpoints, comparative genomics data, theoretical and empirical evidence and the role of bioinformatics in the study of gene duplication

This up-to-date overview of theory and mathematical models along with practical examples is suitable for scientists across various levels of biology as well as instructors and graduate students.
ABOUT THE AUTHOR

**Katharina Dittmar de la Cruz** holds both a Ph.D. in Molecular Parasitology and Entomology and a doctorate in Veterinary Medicine, both from the University of Leipzig, Germany. An expert in phylogenetics, molecular evolution, and bioinformatics, she has recently turned her attention toward examining the implications of evolutionary forces on drug design. Dr. Dittmar is an Assistant Professor at the SUNY University at Buffalo.

**David Liberles** earned his Ph.D. in Chemistry at the California Institute of Technology working on the biochemistry of nucleic acids. Subsequently, he has developed significant expertise in bioinformatics, computational biology and functional genomics. His broad experience includes a professorship at the Stockholm Bioinformatics Center and consultancies with Novo Nordisk and other private research and diagnostic companies. Currently he is Vice-Director of the University of Wyoming Bioinformatics Center and Assistant Professor of Molecular Biology.

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