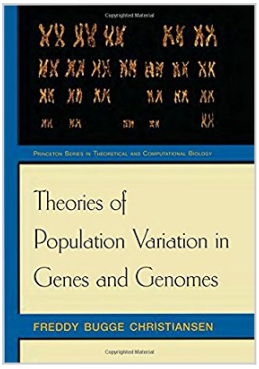

Theories of Population Variation in Genes and Genomes (Princeton Series in Theoretical and Computational Biology)

By Freddy Bugge Christiansen

Theories of Population Variation in Genes and Genomes (Princeton Series in Theoretical and Computational Biology) By Freddy Bugge Christiansen

This textbook provides an authoritative introduction to both classical and coalescent approaches to population genetics. Written for graduate students and advanced undergraduates by one of the world's leading authorities in the field, the book focuses on the theoretical background of population genetics, while emphasizing the close interplay between theory and empiricism. Traditional topics such as genetic and phenotypic variation, mutation, migration, and linkage are covered and advanced by contemporary coalescent theory, which describes the genealogy of genes in a population, ultimately connecting them to a single common ancestor. Effects of selection, particularly genomic effects, are discussed with reference to molecular genetic variation. The book is designed for students of population genetics, bioinformatics, evolutionary biology, molecular evolution, and theoretical biology--as well as biologists, molecular biologists, breeders, biomathematicians, and biostatisticians.

- Contains up-to-date treatment of key areas in classical and modern theoretical population genetics
- Provides in-depth coverage of coalescent theory
- Discusses genomic effects of selection
- Gives examples from empirical population genetics
- Incorporates figures, diagrams, and boxed features throughout
- Includes end-of-chapter exercises
- Speaks to a wide range of students in biology, bioinformatics, and biostatistics

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Editorial Review

Review
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About the Author
Freddy Bugge Christiansen is professor of population biology at the University of Aarhus in Denmark. He is the author of *Population Genetics of Multiple Loci* and coauthor of *Theories of Populations in Biological Communities* and *Population Genetics*.

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