

Human Population Genetics and Genomics

By Alan R. Templeton

Human genetics and genomics research often employs tools and approaches derived from population genetics, and knowledge of the underlying basis and principles of these tools is needed for their proper use and interpretation. These studies also often employ statistical approaches and analysis, so an understanding of some basic statistical theory is also needed.

Human Population Genetics and Genomics provides researchers and students with knowledge of population genetics and relevant statistical approaches in order to become more effective users of modern genetic, genomic, and statistical tools. In-depth chapters offer thorough discussions of systems of mating, genetic drift, gene flow and subdivided populations, human population history, genotype and phenotype, detecting selection, units and targets of natural selection, adaptation to temporally and spatially variable environments, selection in age-structured populations, and genomics and society.

THIS BOOK

- comprehensively explains the use of population genetics and genomics in medical applications and research employing new genetic technologies
- discusses the relevance of population genetics and genomics to major social issues, including race and the dangers of modern eugenics proposals
- provides an overview of how population genetics and genomics helps us understand where we came from as a species and how we evolved into who we are now

ABOUT THE AUTHOR

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Dr. Templeton is the Charles Rebstock Emeritus Professor of Biology and Statistical Genomics at Washington University in St. Louis, Missouri, USA. In addition, he is a Visiting Researcher at the Rappaport Institute in Haifa, and a Visiting Professor at the Institute of Evolution and the Department of Evolutionary and Environmental Biology at the University of Haifa, Israel. He has been the President of the Society for the Study of Evolution, the Fulbright-Israel Distinguished Chair in the Natural Sciences and Engineering, and an editor or associate editor of several major scientific journals.

He is a fellow of the American Association for the Advancement of Science, a recipient of the David Murdock-Dole Award for outstanding contributions in human genetic studies, a recipient of the Burroughs-Wellcome Fund Innovation Award in Functional Genomics, and a fellow of the American Academy of Arts and Sciences. He has repeatedly been listed as an author of one of the top 1% most highly cited papers in the Life Sciences worldwide. He applies genomics and statistical population genetics to a variety of basic and applied problems on the genetics of complex diseases, evolutionary biology, human evolution, bioinformatics, and conservation biology.



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