

After the great expansion of genome-wide association studies, their scientific methodology and, notably, their data analysis have matured in recent years, and they are a keystone in large epidemiological studies. Newcomers to the field are confronted with a wealth of data, resources, and methods. This book presents current methods to perform informative analyses using real and illustrative data with established bioinformatics tools and guides the reader through the use of publicly available data.

- Includes clear, readable programming codes for readers to reproduce and adapt to their own data
- Emphasizes extracting biologically meaningful associations between traits of interest and genomic, transcriptomic, and epigenomic data
- Uses up-to-date methods to exploit omic data
- Presents methods through specific examples and computing sessions
- Supplemented by a website, including code, datasets, and solutions

Juan R. González is an associate research professor leading the Bioinformatics Research Group in Epidemiology at the Barcelona Institute for Global Health. He has published extensively on methods and bioinformatics tools for detecting structural variants in genomic data and performing different types of omic association studies. Dr. González is the author of many R and Bioconductor packages, including state-of-the-art libraries such as SNPassoc or MAD, that have been used to discover new susceptibility genetic factors for complex diseases.

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