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Titolo	Statistical Analysis of Microbiome Data with R // by Yinglin Xia, Jun Sun, Ding-Geng Chen
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ISBN	981-13-1534-5
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Descrizione fisica	1 online resource (518 pages)
Collana	ICSA Book Series in Statistics, , 2199-0999
Disciplina	579.16
Soggetti	Mathematical statistics - Data processing Biometry Big data Statistics and Computing Biostatistics Big Data
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Introduction to R, RStudio and ggplot2 -- Chapter 2: What are Microbiome Data? -- Chapter 3: Bioinformatic and Statistical Analyses of Microbiome Data -- Chapter 4: Power and Sample Size Calculation in Hypothesis Testing Microbiome Data -- Chapter 5: Microbiome Data Management -- Chapter 6: Exploratory Analysis of Microbiome Data -- Chapter 7: Comparisons of Diversities, OTUs and Taxa among Groups -- Chapter 8: Community Composition Study -- Chapter 9: Modeling Over-dispersed Microbiome Data -- Chapter 10: Linear Regression Modeling metadata -- Chapter 11: Modeling Zero-Inflated Microbiome Data.
Sommario/riassunto	This unique book addresses the statistical modelling and analysis of microbiome data using cutting-edge R software. It includes real-world data from the authors' research and from the public domain, and discusses the implementation of R for data analysis step by step. The data and R computer programs are publicly available, allowing readers to replicate the model development and data analysis presented in each chapter, so that these new methods can be readily applied in their own research. The book also discusses recent developments in statistical

modelling and data analysis in microbiome research, as well as the latest advances in next-generation sequencing and big data in methodological development and applications. This timely book will greatly benefit all readers involved in microbiome, ecology and microarray data analyses, as well as other fields of research.

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