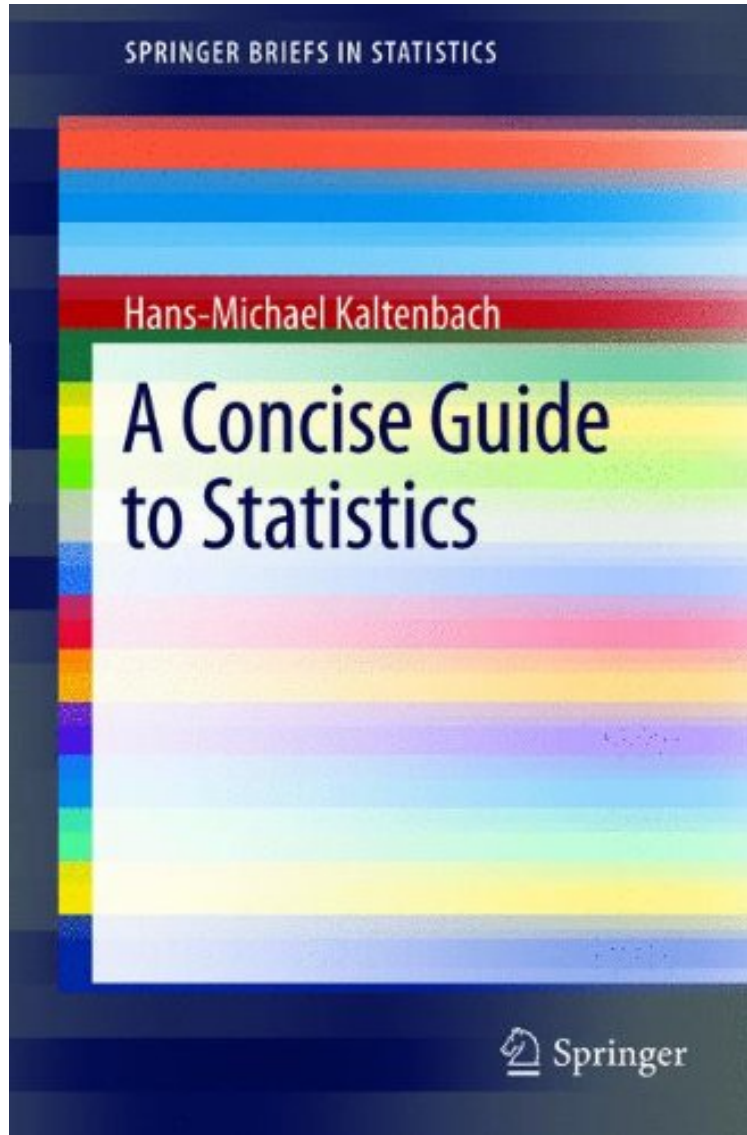


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A Concise Guide to Statistics (SpringerBriefs in Statistics)

Hans-Michael Kaltenbach

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#4666501 in Books 2011-10-19Original language:EnglishPDF # 1 9.25 x .29 x 6.10l, .42 #File Name: 3642235018111 pages | File size: 69.Mb

Hans-Michael Kaltenbach : A Concise Guide to Statistics (SpringerBriefs in Statistics) before purchasing it in order to gage whether or not it would be worth my time, and all praised A Concise Guide to Statistics (SpringerBriefs in Statistics):

1 of 2 people found the following review helpful. Messed up type settingBy PaulThe messed up typesetting for equations in text is even obvious in the preview, but I missed to check it before the purchase. It makes the text hard to read, so I returned it. I liked the table of contents.0 of 0 people found the following review helpful. Clear, good

examples, well motivated. I seriously do not understand the previous review since in my opinion there is no problem with the typesetting in this book. I have looked at several statistic books already and worked with them too, and this is a very good one. It is indeed concise, but it is also precise without being overly formal since it is thought rather for biologists and alike instead of being written for mathematicians. So you have the chance to learn the formalism without having gone through several math classes beforehand. Also, I found the comments very helpful since they answered questions which immediately popped up when I went through the concepts on my own. The examples too are very helpful, they help to train your intuition and understand why the encountered concepts are important and what they are good for.

The text gives a concise introduction into fundamental concepts in statistics. Chapter 1: Short exposition of probability theory, using generic examples. Chapter 2: Estimation in theory and practice, using biologically motivated examples. Maximum-likelihood estimation is covered, including Fisher information and power computations. Methods for calculating confidence intervals and robust alternatives to standard estimators are given. Chapter 3: Hypothesis testing with emphasis on concepts, particularly type-I, type-II errors, and interpreting test results. Several examples are provided. T-tests are used throughout, followed important other tests and robust/nonparametric alternatives. Multiple testing is discussed in more depth, and combination of independent tests is explained. Chapter 4: Linear regression, with computations solely based on R. Multiple group comparisons with ANOVA are covered together with linear contrasts, again using R for computations.

From the reviews: This slender volume covers the basics of probability, estimation, hypothesis testing, and regression. The book would be a good refresher for someone with a basic background in statistics. Overall, this is a very nice presentation of fundamental statistical methods for basic research. The writing is clear, and the mathematical presentation is careful and accurate. Kaltenbach's book will be a good addition to the bookshelves of statistics students. Summing Up: Recommended. Upper-division undergraduates. (R. L. Pour, Choice, Vol. 49 (11), July, 2012)

From the Back Cover This work provides a concise introduction to fundamental concepts in statistics. Chapter 1: Short exposition of probability theory, using generic examples. Chapter 2: Estimation in theory and practice, using biologically motivated examples. Maximum-likelihood estimation is also covered, including Fisher information and power computations. Methods for calculating confidence intervals and robust alternatives to standard estimators are also presented. Chapter 3: Hypothesis testing with emphasis on concepts, particularly type-I and type-II errors, and interpreting test results. Several examples are provided. T-tests are used throughout, followed other important tests and robust/nonparametric alternatives. Multiple testing is discussed in more depth, and the combination of individual tests is explained. Chapter 4: Linear regression, with computations solely based on R. Multiple group comparisons with ANOVA are covered together with linear contrasts, again using R for computations.

About the Author Hans-Michael Kaltenbach received his Diploma in Mathematics from the University of Hannover, Germany in 2003 with a thesis on the stochastic runtime analysis of algorithms. Then he joined the International Graduate School for Bioinformatics and Genome Research at the University of Bielefeld, where he completed his PhD in 2007 with a thesis on efficient algorithms and statistics for protein identification using mass spectrometry. In 2007/2008 he became a postdoctoral fellow at the Institut Pasteur in Paris, France, working with Benno Schwikowski on algorithms for mass spectrometry and algorithms and statistics for the analysis of biological networks. Since 2008, he has been working as a postdoctoral fellow with Joerg Stelling in the computational systems biology group at the ETH Zurich, Switzerland.