Mathematical and Statistical Estimation Approaches in Epidemiology

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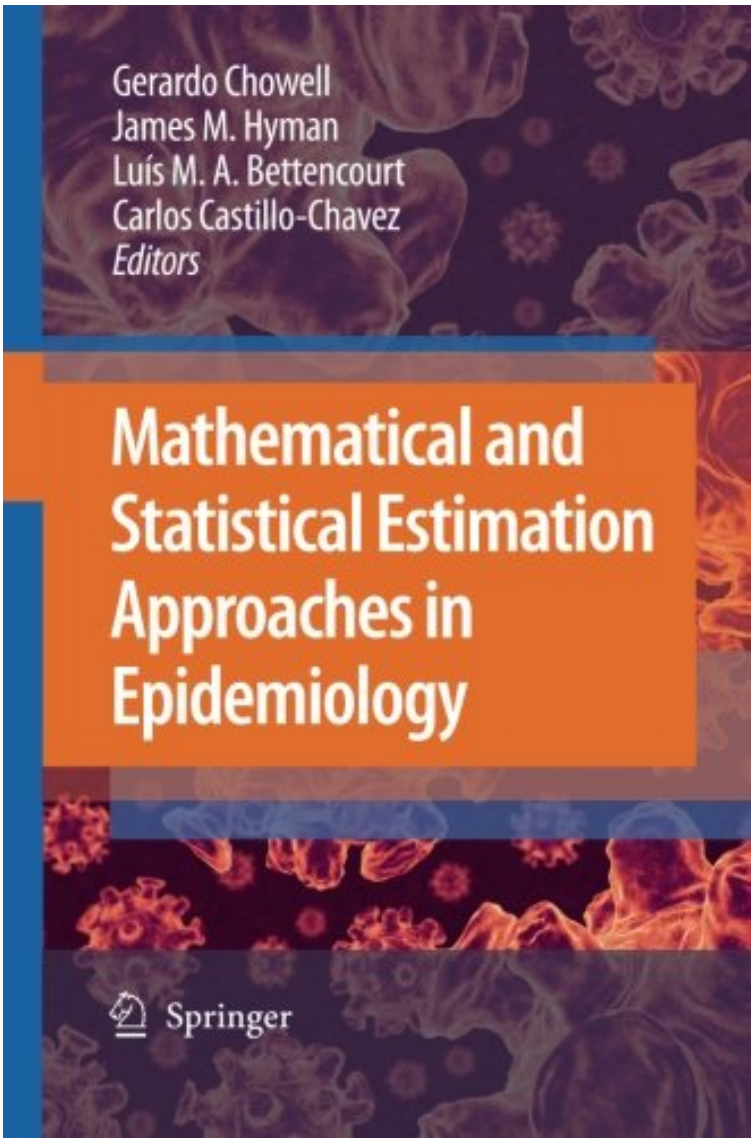

#8157763 in Books 2014-11-14 2014-11-14Original language:EnglishPDF # 1 9.25 x .91 x 6.10l, 1.29 #File Name: 9400779909363 pages | File size: 73.Mb

From Springer : Mathematical and Statistical Estimation Approaches in Epidemiology before purchasing it in order to gage whether or not it would be worth my time, and all praised Mathematical and Statistical Estimation Approaches in Epidemiology:

Mathematical and Statistical Estimation Approaches in Epidemiology compiles t- oretical and practical contributions of experts in the analysis of infectious disease epidemics in a single volume. Recent collections have focused in the analyses and simulation of deterministic and stochastic models whose aim is to identify and rank epidemiological and social mechanisms responsible for disease transmission. The contributions in this volume focus on the connections between models and disease data with emphasis on the application of mathematical and statistical approaches that quantify model and data uncertainty. The book is aimed at public health experts, applied mathematicians and sci- tists in the life and social sciences, particularly graduate or advanced undergraduate students, who are interested not only in building and connecting models to data but also in applying and developing methods that quantify uncertainty in the context of infectious diseases. Chowell and Brauer open this volume with an overview of the classical disease transmission models of Kermack-McKendrick including extensions that account for increased levels of epidemiological heterogeneity. Their theoretical tour is followed by the introduction of a simple methodology for the estimation of, the basic reproduction number,R . The use of this methodology 0 is illustrated, using regional data for 19181919 and 1968 in uenza pandemics.

From the reviews:Mathematical and Statistical Estimation Approaches in Epidemiology is a well written book . The book is aimed at public health experts, applied mathematicians and scientists in the life and social sciences particularly graduate or advanced undergraduate students. This is an excellent text for those with some knowledge of statistics mathematics . it suits the expectations for that category of readers that is written for and will be a useful reference on many bookshelves. (Peter Wludyka and Carmen Masnita Iusan, Technometrics, Vol. 53 (1), February, 2011)About the AuthorGerardo Chowell is an associate professor and a Second Century Initiative Scholar (2CI) in the School of Public Health at Georgia State University in Atlanta. His research program includes the development and application of quantitative approaches for understanding the transmission dynamics and control of infectious diseases including influenza, Ebola, and dengue fever. His work has appeared in high-impact journals including The New England Journal of Medicine, PLOS Medicine, and BMC Medicine, and has been cited by major media outlets including the Washington Post and TIME magazine.James (Mac) Hyman has developed and analyzed mathematicalmodels for the transmission of HIV/AIDs, influenza, malaria, dengue fever, chikungunya, and infections. His current focus is to identify approaches where these models can help public health workers be more effective in mitigating the impact of emerging diseases. He was a research scientist at Los Alamos National Laboratory for over thirty years, is a past president of the Society for Industrial and Applied Mathematics (SIAM), and now holds the PhillipsDistinguished Chair in Mathematics at TulaneUniversity.