Título:

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The first introductory level book for social scientists interested in learning about Markov chain Monte Carlo methods
Offers extensive discussion of programming, performance monitoring, and improving MCMC algorithms
Provides examples involving real social science models and data
Introduction to Applied Bayesian Statistics and Estimation for Social Scientists covers the complete process of Bayesian statistical analysis in great detail from the development of a model through the process of making statistical inference. The key feature of this book is that it covers models that are most commonly used in social science research, including the linear regression model, generalized linear models, hierarchical models, and multivariate regression models, and it thoroughly develops each real-data example in painstaking detail.

The first part of the book provides a detailed introduction to mathematical statistics and the Bayesian approach to statistics, as well as a thorough explanation of the rationale for using simulation methods to construct summaries of posterior distributions. Markov chain Monte Carlo (MCMC) methods_including the Gibbs sampler and the Metropolis-Hastings algorithm_are then introduced as general methods for simulating samples from distributions. Extensive discussion of programming MCMC algorithms, monitoring their performance, and improving them is provided before turning to the larger examples involving real social science models and data.

Scott M. Lynch is an associate professor in the Department of Sociology and Office of Population Research at Princeton University. His substantive research interests are in changes in racial and socioeconomic inequalities in health and mortality across age and time. His methodological interests are in the use of Bayesian stastistics in sociology and demography generally and in multistate life table methodology specifically.