

# Preface

This book, as with others in the series, is intended to provide supplementary material for courses in probability or stochastic processes. The mathematical focus is on counting processes and continuous-time Markov chains, and the selection of material is motivated by the examples and applications drawn from chemical networks in systems biology. While the material is presented in a manner most suitable for students who have studied stochastic processes up to and including martingales in continuous time, much of the necessary background material is summarized in the Appendix. Our hope is that a student with a solid understanding of calculus, differential equations, and elementary probability, and who is well-motivated by the applications, will be able to follow the main material with occasional reference to the Appendix.

As a review of the references will indicate, this text includes much work done by the authors with a long list of collaborators, work that was supported by a variety of grants from the National Science Foundation, most recently DMS-11-06424 and DMS-13-18832. This collaboration and support is gratefully acknowledged.

Madison, WI, USA  
December 2014

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Stochastic Analysis of Biochemical Systems

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2015, X, 84 p. 4 illus., Softcover

ISBN: 978-3-319-16894-4