# Finite Markov Chains and Algorithmic Applications

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London Mathematical Society
Student Texts **52**

# Contents

Based on a lecture course given at Chalmers University of Technology, this book is ideal for advanced undergraduate or beginning graduate students. The author first develops the necessary background in probability theory and Markov chains before applying it to study a range of randomized algorithms with important applications in optimization and other problems in computing. Amongst the algorithms covered are the Markov chain Monte Carlo method, simulated annealing, and the recently developed Propp–Wilson algorithm. This book will appeal not only to mathematicians, but also to students of statistics and computer science. The subject matter is introduced in a clear and concise fashion and the numerous exercises included will help students to deepen their understanding.

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This series consists of textbooks aimed at advanced undergraduates or beginning graduate students. It will cover the whole range of pure mathematics, as well as topics in applied mathematics and mathematical physics that involve a substantial use of modern mathematical methods. Topics not of a standard nature though of current interest are also covered by volumes in this series.