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INCLUDING A SECTION ON

STOCHASTIC GEOMETRY AND STATISTICAL APPLICATIONS

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ADVANCES IN APPLIED PROBABILITY

This is a companion publication to the *Journal of Applied Probability* published by the Applied Probability Trust. It contains reviews and expository papers in applied probability, as well as mathematical and scientific papers of interest to probabilists, letters to the editor and a section devoted to stochastic geometry and statistical applications (SGSA). An annual volume of up to 1200 pages is published in four issues appearing in March, June, September and December.

All correspondence relating to the submission of papers should be sent to: The Executive Editor, Applied Probability, School of Mathematics and Statistics, University of Sheffield, Sheffield S3 7RH, UK. Subscription rates and notes for contributors are to be found on the inside back cover.

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Stochastic Geometry and Statistical Applications

General Applied Probability

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Volume 44 **Number 4**

Stochastic Geometry and Statistical Applications

General Applied Probability

BOOK ANNOUNCEMENT

CHEN, L. H. Y., GOLDSTEIN, L. AND SHAO, Q.-M. (2011).
Normal Approximation by Stein's Method

is a volume in the series

Probability and Its Applications

published by Springer in collaboration with the Applied Probability Trust.

Since its introduction in 1972, Stein's method has offered a completely novel way of evaluating the quality of normal approximations. Through its characterizing equation approach, it is able to provide approximation error bounds in a wide variety of situations, even in the presence of complicated dependence. Use of the method thus opens the door to the analysis of random phenomena arising in areas including statistics, physics, and molecular biology.

Though Stein's method for normal approximation is now mature, the literature has so far lacked a complete self contained treatment. This volume contains thorough coverage of the method's fundamentals, includes a large number of recent developments in both theory and applications, and will help accelerate the appreciation, understanding, and use of Stein's method by providing the reader with the tools needed to apply it in new situations. It addresses researchers as well as graduate students in Probability, Statistics and Combinatorics.

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BOOK ANNOUNCEMENT

HÖGNÄS, G. AND MUKHERJEA, A. (2011).
Probability Measures on Semigroups

is a volume in the series

Probability and Its Applications

published by Springer in collaboration with the Applied Probability Trust.

Semigroups are very general structures and scientists often come across them in various contexts in science and engineering. In this second edition of Probability Measures on Semigroups, first published in the University Series in Mathematics in 1996, the authors present the theory of weak convergence of convolution products of probability measures on semigroups, the theory of random walks on semigroups, and their applications to products of random matrices. They examine the essentials of abstract semigroup theory and its application to concrete semigroups of matrices. They present results on weak convergence, random walks, random matrices using semigroup ideas that for the most part are complete and best possible. Still, as the authors point out, there are other results that remain to be completed. These are all mentioned in the notes and comments at the end of each chapter, and will keep the readership of this book enthusiastic and interested for some time to come. Apart from corrections of several errors, new results have been added in the main text and in the appendices; the references, all notes and comments at the end of each chapter have been updated, and exercises have been added. This volume is suitable for a one semester course on semigroups and it could be used as a main text or supplementary material for courses focusing on probability on algebraic structures or weak convergence. It is ideally suited to graduate students in mathematics, and in other fields such as engineering and sciences with an interest in probability. Students in statistics using advance probability will also find it useful.

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