ADVANCES IN APPLIED PROBABILITY

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.

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NEW BOOK ANNOUNCEMENT

GAWARECKI, L. AND MANDREKAR, V. (2011).
Stochastic Differential Equations in Infinite Dimensions

is a new volume in the series

Probability and Its Applications

published by Springer in collaboration with the Applied Probability Trust.

The systematic study of existence, uniqueness, and properties of solutions to stochastic differential equations in infinite dimensions arising from practical problems characterizes this volume that is intended for graduate students and for pure and applied mathematicians, physicists, engineers, professionals working with mathematical models of finance. Major methods include compactness, coercivity, monotonicity, in a variety of set-ups. The authors emphasize the fundamental work of Gikhman and Skorokhod on the existence and uniqueness of solutions to stochastic differential equations and present its extension to infinite dimension. They also generalize the work of Khasminskii on stability and stationary distributions of solutions. New results, applications, and examples of stochastic partial differential equations are included. This clear and detailed presentation gives the basics of the infinite dimensional version of the classic books of Gikhman and Skorokhod and of Khasminskii in one concise volume that covers the main topics in infinite dimensional stochastic PDE's. By appropriate selection of material, the volume can be adapted for a 1- or 2-semester course, and can prepare the reader for research in this rapidly expanding area.

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NEW BOOK ANNOUNCEMENT

Li, Z. (2011). ***Measure-Valued Branching Markov Processes***

is a new volume in the series

Probability and Its Applications

published by Springer in collaboration with the Applied Probability Trust.

Measure-valued branching processes arise as high density limits of branching particle systems. The Dawson-Watanabe superprocess is a special class of those. The author constructs superprocesses with Borel right underlying motions and general branching mechanisms and shows the existence of their Borel right realizations. He then uses transformations to derive the existence and regularity of several different forms of the superprocesses. This treatment simplifies the constructions and gives useful perspectives. Martingale problems of superprocesses are discussed under Feller type assumptions. The most important feature of the book is the systematic treatment of immigration superprocesses and generalized Ornstein–Uhlenbeck processes based on skew convolution semigroups.

The volume addresses researchers in measure-valued processes, branching processes, stochastic analysis, biological and genetic models, and graduate students in probability theory and stochastic processes.

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