Foreword

This volume is an expanded version of the lectures delivered by Professor Gopinath Kallianpur as part of the 1993 Barrett Lectures at the University of Tennessee, Knoxville, during March 25-27, 1993.

The tradition of the Barrett memorial Lectures began in 1970 to honor Professor John H. Barrett, who was the head of the mathematics department of the University of Tennessee at the time of his death in 1969. They have been given annually since 1972 by a succession of distinguished speakers in varied areas of vital current interest.

The main objective of the 1993 Barrett Lectures was to provide the participants the opportunity to gain a concise introduction to the important and rapidly developing fields of SDE's in infinite dimensional spaces and measure valued processes. To accomplish this objective, Professors Donald Dawson, Eugene Dynkin and Gopinath Kallianpur, three outstanding specialists in these fields, were invited. The format of the Lectures was so designed as to allow the speakers the opportunity to explore their respective subject in depth and also to leave time for informal discussions. Each Lecturer presented a series of three one-hour lectures. Professor Dawson presented some recent developments of the long term behavior of measure valued processes, while professor Dynkin talked about measure valued branching processes and partial differential equations. Professor Kallianpur's lectures were devoted to the subject of infinite dimensional nuclear space valued SDE's. In order to make the planned activities accessible to a larger audience the Lecture Series was coordinated with the regional AMS meeting which took place at the same time at the University campus. The Lecture Series attracted more than one hundred participants. Though the majority of the participants were drawn from Universities and institutions of the southeastern United States, the lectures also attracted many participants from Canada, Mexico, France, Germany, Holland, Japan and Switzerland as well as from other parts of the United States.

Professor Kallianpur is well known for his extensive and pioneering contributions to many areas of Stochastic Processes. Professor Jie Xiong, the co-author of this monograph, finished his Doctoral work with Kallianpur

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in 1992 and has been our colleague since 1993 when he joined the University of Tennessee. Xiong in collaboration with Kallianpur, has contributed substantially to the subject of SDE's in infinite dimensions.

It took the effort of many people to organize this Lecture Series. This includes the members of the Program Committee which consisted of Professors R. Anderson, S. Cambanis, J. Mitro, O. Kallenberg, H.-H. Kuo, V. Mandrekar, A. Mukherjea, L. Pitt, G. Samorodnitsky, J. Szulga, M.S. Taqqu, and W.A. Woyczynski. Our sincere thanks to them for their advice in helping us choose the topics for the Lectures as well as the 1993 Barrett Lecturers. We also take this opportunity to thank Professor John Conway, the Head of the Mathematics Department, and Professor Thomas Callcot, Director of the Tennessee Science Alliance for their encouragement and sincere interest in the 1993 Barrett Lectures from the early stages of its planning. We also acknowledge generous support for the Lecture Series from the University of Tennessee, the Tennessee Science Alliance, and the National Science Foundation. Thanks are also due to Professor R. Serfling, former editor of the IMS Monograph Series for encouraging us to publish this volume in this series, and to Professor D. Ruppert, the present editor of the series, for his co-operation during the final stages of its publication. Finally, we extend our sincere thanks to the three 1993 Barrett Lecturers and to Professors Kallianpur and Xiong for preparing this monograph.

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Balram S. Rajput
Jan Rosinski
(Organizers of
1993 Barrett Lectures)

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