Advances in Applied Probability

The Editorial Board would like to encourage the submission to the *Advances* of review papers summarising and coordinating recent results in any of the fields of applied probability.

In addition to these review papers, *Advances* is also designed to be a medium of publication for (1) longer research papers in applied probability, which may include expository material, (2) expository papers on branches of mathematics of interest to probabilists, (3) papers outlining areas in the biological, physical, social and technological sciences in which probability models can be usefully developed, (4) papers in applied probability presented at conferences which do not publish their proceedings, and finally, (5) letters to the editor on any appropriate topic in applied probability.

In short, the main function of *Advances* is to define areas of recent progress and potential development in applied probability. As with the *Journal of Applied Probability*, *Advances* undertakes to publish papers accepted by the Editors within 15 months of their submission; letters to the editor will normally be published more rapidly.

The Editor-in-Chief is J. Gani; the Coordinating Editors are C. C. Heyde, M. F. Neuts and G. E. H. Reuter; other editors are P. J. Brockwell, V. R. Cane, J. W. Cohen, E. J. Hannan, J. Keilson, D. G. Kendall, J. F. C. Kingman, K. Krickeberg, R. M. Loynes, K. R. Parthasarathy, C. A. B. Smith, and R. L. Tweedie. The Editorial Office of the *Advances* is in the Department of Probability and Statistics, The University, Sheffield S3 7RH, England.

Volume 19 No. 4 of *Advances* contains the following papers:

FRANK BALL AND PETER DONNELLY. Interparticle correlation in death processes with application to variability in compartmental models

YASUSHI MASUDA AND USHIO SUMITA. Analysis of a counting process associated with a semi-Markov process: number of entries into a subset of state space

A. BUONOCORE, A. G. NOBILE AND L. M. RICCIARDI. A new integral equation for the evaluation of first-passage-time probability densities

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J. GEORGE SHANTHIKUMAR. Stochastic majorization of random variables with proportional equilibrium rates

NORBERT HENZE. On the fraction of random points with specified nearest-neighbour interrelations and degree of attraction

DAVID G. KENDALL AND HUI-LIN LE. The structure and explicit determination of convex-polygonally generated shape-densities

MOHAMED ABDEL-HAMEED. Inspection and maintenance policies of devices subject to deterioration

V. G. KULKARNI, V. F. NICOLA AND K. S. TRIVEDI. The completion time of a job on multimode systems

K. D. GLAZEBROOK AND N. A. FAY. On the scheduling of alternative stochastic jobs on a single machine

V. GIORNO, A. G. NOBILE AND L. M. RICCIARDI. On some time-non-homogeneous diffusion approximations to queueing systems

Subscription rates (per volume) for the *Advances* in 1987 are the same as for the *Journal* (see inside back cover). A discount of 10% is allowed to subscribers who order current issues of both the *Journal* and *Advances* at the same time direct from the Applied Probability Office. A detailed price list for both current and back issues is available on request.

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NEW FOR 1988

The Applied Probability Trust announces the following publications for 1988:

A CELEBRATION OF APPLIED PROBABILITY
Journal of Applied Probability (JAP) Supplementary Volume 25A

This supplementary volume will be published around September 1988 to mark the twenty-fifth anniversary of JAP, and will contain material of interest to all those working in probability and related fields. There will be 27 contributions by former and present editors of the Applied Probability journals, including articles on the history of the subject and the development of the Applied Probability Trust, as well as technical papers. This book of approximately 320 pages will have an attractive cover. Its regular price will be £25.00 (US$40.00; $A.58.00), but for those whose orders are placed no later than 1 June 1988 the prepublication price is £22.50 (US$36.00; $A.52.20), packing and postage included.

THE MATHEMATICAL SCIENTIST

Starting in 1988, the Applied Probability Trust will assume responsibility for the publication of **The Mathematical Scientist**. This contains papers on a variety of mathematical topics for the general information and enjoyment of mathematicians, statisticians and computer scientists; it will also appeal to scientists in any other discipline lending itself to the application of mathematical methods. Each annual volume will consist of two issues distributed in June and December, totalling approximately 128 pages.

The Mathematical Scientist is modestly priced at £7.00 (US$12.00; $A.16.00). Special discounts are available for subscribers to the **Journal of Applied Probability** and **Advances in Applied Probability**.

Orders and requests for further information should be sent to

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NEW JOURNALS IN OPERATIONS RESEARCH

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(a) **Analytical innovations,** (b) **Control, inference and stochastic orderings,** (c) **Computational techniques; approximations** and (d) **Applications.**

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S.F. Yashkov (invited paper), Processor sharing queues: some progress in analysis
M.F. Neuts and Y. Chandramouli, Statistical group testing with queueing involved
B. Doshi and W.S. Wong, Exact solution of a simple finite infinite source interaction model
J. Abate and W. Whitt, Transient behavior of the M/M/1 queue: starting at the origin
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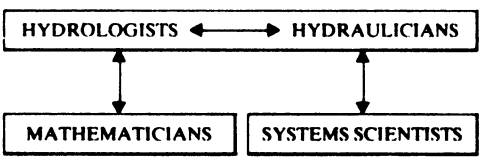

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Review papers, *longer research papers* and *letters to the editor* are published in *Advances in Applied Probability*, a companion journal. (Note: Letters relating specifically to papers which have appeared in the *Journal of Applied Probability* will continue to appear in the *Journal*.)

The editors may publish accepted papers in either journal, according to the space available, in order to meet the 15-month deadline in publication referred to below.

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