

# Advances in Applied Probability

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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in which probability models can be usefully developed, (4) papers in applied probability presented at conferences which do not publish their proceedings, and finally, (5) letters to the editor on any appropriate topic in applied probability.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.

Volume 21 No. 1 of *Advances* contains the following papers:

H. R. LERCHE AND D. SIEGMUND. Approximate exit probabilities for a Brownian bridge on a short time interval, and applications

V. GIORNO, A. G. NOBILE, L. M. RICCIARDI AND S. SATO. On the evaluation of first-passage-time probability densities via non-singular integral equations

J. MØLLER. Random tessellations in  $\mathbb{R}^d$

A. D. BARBOUR AND LARS HOLST. Some applications of the Stein–Chen method for proving Poisson convergence

N. MAZARS. Pseudo-modular decompositions and ‘refined bounds’ for the interval reliability and the availability for binary coherent systems

DAVID PERRY AND BENNY LEVIKSON. Continuous production/inventory model with analogy to certain queueing and dam models

A. J. KONING. On single-lane roads

BHASKAR SENGUPTA. Markov processes whose steady state distribution is matrix-exponential with an application to the  $GI/PH/1$  queue

XI-REN CAO. Calculation of sensitivities of throughputs and realization probabilities in closed queueing networks with finite buffer capacities

G. BRIÈRE AND M. L. CHAUDHRY. Computational analysis of single-server bulk-service queues,  $M/G^r/1$

Subscription rates (per volume) for the *Advances* in 1989 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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**A CELEBRATION OF APPLIED PROBABILITY**

**Journal of Applied Probability (JAP) Supplementary Volume 25A**

This supplementary volume has recently been published to mark the twenty-fifth anniversary of JAP, and contains material of interest to all those working in probability and related fields. There are 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. The contents are in eight sections, as follows:

1. Some thoughts on applied probability  
(J. Gani, D. G. Kendall, M. F. Neuts)
2. The first quarter-century of the Applied Probability Trust  
(Mavis Hitchcock, Kathleen M. Lyle)
3. Stochastic models in biology and field trials  
(M. S. Bartlett, Peter J. Brockwell, J. F. C. Kingman, Cedric A. B. Smith/Robert Thomson)
4. Applied probability and quantum theory  
(P. D. Finch, K. R. Parthasarathy, Geoffrey S. Watson)
5. Concepts of coincidence and convergence  
(A. D. Barbour, S. Karlin, R. M. Loynes)
6. The analysis of stochastic phenomena  
(N. H. Bingham, Ron Engelen/Paul Thommassen/Wim Vervaat, J. Keilson/  
M. Zachman, N. U. Prabhu, R. L. Tweedie, P. Whittle)
7. Stationary processes and time series  
(E. J. Hannan/J. Rissanen, C. C. Heyde)
8. Random walks, graphs and networks  
(J. W. Cohen, J. Gani, J. M. Hammersley, Lajos Takács)

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In 1988 the Applied Probability Trust assumed responsibility for the publication of TMS. Its first twelve volumes were published in Australia by CSIRO and the Australian Mathematical Society; starting with Volume 13 (1988) it became an Applied Probability Trust publication administered and distributed from the Trust's headquarters in Sheffield.

TMS contains papers on a variety of mathematical topics for the general information and enjoyment of mathematicians, statisticians and computer scientists; it also appeals to workers in any other discipline lending itself to the application of mathematical methods. The following papers will appear in Volume 14 Number 1, to be published in June 1989:

An undergraduate exercise in manipulation, by J. M. HAMMERSLEY

Expected time to failure of reliability systems, by LENNART RÅDE

From Poisson to compound Poisson approximation, by Y. H. WANG

A note on first passage times for Brownian motion, by W. F. SCOTT

Is  $p$  a prime number? Some probabilistic tests of primality,

by S. RAO JAMMALAMADAKA and V. R. R. UPPULURI

A bibliography of statistical bibliographies: a twenty-first list, by H. O. LANCASTER

Readers are encouraged to submit short papers, letters and problems concerned with the theory and application of mathematics, statistics or computing. Material for publication should be presented in a clear and simple style, suitable for an informed but non-specialist mathematical audience, and may be sent to any member of the newly formed international editorial board of TMS:

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Each volume consists of two issues distributed in June and December, totalling approximately 128 pages. TMS is modestly priced at £7.00 (US\$12.00; \$A.16.00); please make remittances payable to 'The Mathematical Scientist'. Orders and requests for further information should be sent to

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## NOTES FOR CONTRIBUTORS

Papers published in the *Journal* are of two kinds:

(1) *research papers* not exceeding 20 printed pages;

(2) *short communications* of a few printed pages in the nature of notes or brief accounts of work in progress.

*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.

### Submission of papers

It is a condition of publication in the *Journal of Applied Probability* that papers shall not previously have appeared elsewhere, and will not be reprinted without the written permission of the Trust. It is the policy of the *Journal* not to accept for publication papers which cannot appear in print within 15 months of the date of receipt of the final version. Authors will receive 50 reprints of their papers free, and joint authors a proportional share of this number. Additional reprints will be provided at cost.

Papers should be written in English or French; papers in other languages may be accepted by the editors, but will appear (subject to the author's agreement) in English or French translation in the *Journal*. Scripts should be typewritten, using double spacing, and at least one copy should be on one side of the paper only. Each paper should be accompanied by

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