

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which probability models can be usefully developed, (4) papers in applied probability presented at conferences which do not publish their proceedings, and finally, (5) letters to the editor on any appropriate topic in applied probability.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

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. 1 of *Advances* contains the following papers:

**MURAD S. TAQQU AND WALTER WILLINGER.** The analysis of finite security markets using martingales

**BERNHARD MELLEIN.** A nucleation-growth process on the integers

**KIYOMASA NARITA.** Asymptotic analysis for interactive oscillators of the van der Pol type

**W. S. KENDALL AND MARK WESTCOTT.** One-dimensional classical scattering processes and the diffusion limit

**SIMEON M. BERMAN.** Poisson and extreme value limit theorems for Markov random fields

**MOSHE SHAKED AND J. GEORGE SHANTHIKUMAR.** Multivariate hazard rates and stochastic ordering

**S. G. GHURYE.** Some multivariate lifetime distributions

**M. H. A. DAVIS, M. A. H. DEMPSTER, S. P. SETHI AND D. VERMES.** Optimal capacity expansion under uncertainty

**E. G. COFFMAN, JR, L. FLATTO, M. R. GAREY AND R. R. WEBER.** Minimizing expected makespans on uniform processor systems

**RICHARD R. WEBER AND SHALER STIDHAM, JR.** Optimal control of service rates in networks of queues

**DEBASIS MITRA.** Asymptotic analysis and computational methods for a class of simple, circuit-switched networks with blocking

**TEUNIS J. OTT.** On the stationary waiting-time distribution in the  $GI/G/1$  queue, I: Transform methods and almost-phase-type distributions

**TEUNIS J. OTT.** The single-server queue with independent  $GI/G$  and  $M/G$  input streams

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Executive Editor, Applied Probability,  
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THE APPLIED PROBABILITY TRUST and  
THE LONDON MATHEMATICAL SOCIETY announce

### ANALYTIC AND GEOMETRIC STOCHASTICS

a publication to celebrate the sixty-fifth birthday of G. E. H. REUTER, who for many years represented the London Mathematical Society as a Trustee of the Applied Probability Trust. Edited by D. G. Kendall with the assistance of J. F. C. Kingman and D. Williams, it contains the following contributions:

- D. G. KENDALL: Harry Reuter: An appreciation  
D. J. ALDOUS: Classical convergence of triangular arrays, stable laws and Schauder's fixed-point theorem  
M. T. BARLOW and S. D. JACKA: Tracking a diffusion, and an application to weak convergence  
N. H. BINGHAM: Extensions of the strong law  
N. J. CUTLAND and W. S. KENDALL: A non-standard proof of one of David Williams' splitting-time theorems  
M. JACOBSEN: Co-optional times and invariant measures for transient Markov chains  
D. G. KENDALL and HUI-LIN LE: Exact shape-densities for random triangles in convex polygons  
J. F. C. KINGMAN: The construction of infinite collections of random variables with linear regressions  
T. J. LYONS: The critical dimension at which quasi-every Brownian path is self-avoiding  
J. NEVEU: Erasing a branching tree  
J. W. PITMAN and M. YOR: Some divergent integrals of Brownian motion  
R. PYKE: Product Brownian measures  
L. C. G. ROGERS and D. WILLIAMS: Construction and approximation of transition matrix functions

*Analytic and Geometric Stochastics* is a special issue of *Advances in Applied Probability*, distributed free to current subscribers with Volume 18 Number 4 in December 1986. Copies can also be purchased from Applied Probability, Department of Probability and Statistics, University of Sheffield, Sheffield S3 7RH, England, price £10.00 (US\$15.00) including postage and packing. Orders should be accompanied by a remittance in favour of 'Applied Probability'.

**NSF WORKSHOP ON APPLIED PROBABILITY  
IN THE BIOLOGICAL AND PHYSICAL SCIENCES  
UNIVERSITY OF CALIFORNIA AT SANTA BARBARA  
22 June–2 July 1987**

The Statistics and Applied Probability Program at the University of California, Santa Barbara will be holding a two-week NSF Workshop on

**EXTREMES OF RANDOM PROCESSES IN APPLIED PROBABILITY.**

During the week of 22–27 June 1987 several invited speakers will each spend two hours reviewing some aspects of their past work in the above area; they will also speak about their recent research, and discuss open problems. An opportunity will be provided for participants to present contributed papers. The second week of 29 June–2 July will be devoted to further discussions of promising lines of research; it is hoped that statisticians, applied probabilists and graduate students interested in the field will participate in the workshop.

The following have accepted invitations to lecture:

- S. Berman, Courant Institute, New York University
- J. Galambos, Temple University, Philadelphia
- C. C. Heyde, Australian National University
- R. Leadbetter, University of North Carolina
- E. Parzen, Texas A & M University
- S. Resnick, Colorado State University
- H. Taylor, University of Delaware
- J. Tiago de Oliveira, University of Lisbon
- I. Weissman, Technion, Haifa  
and University of California, Davis.

For further information on this NSF Workshop, please write to Dr J. Gani, Statistics Program, University of California, Santa Barbara, CA 93106, USA.

## SUBSCRIPTION RATES

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### Subscribers in North, Central and South America, and Australia:

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Members of the London Mathematical Society should apply direct to the Secretary of the Society for copies of the *Journal*.

All enquiries about the *Journal*, as well as other subscriptions, should be sent to the Executive Editor, Miss M. Hitchcock, Department of Probability and Statistics, The University, Sheffield S3 7RH, England. The price of back numbers varies from volume to volume, and enquiries should be sent to the Executive Editor. Cheques, money orders, etc. should be made out to *Applied Probability*; cheques on U.S., U.K. and Australian banks will be acceptable.

## 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

(i) a short abstract of approximately 4–10 lines giving a non-mathematical description of the subject matter and results;

(ii) a list of keywords detailing the contents for the purpose of computerised information retrieval.

Authors are advised to consult *The Author's Guide to the Applied Probability Journals* when preparing papers for submission. A copy of this guide may be obtained on application to the Applied Probability Office.

**For efficiency in processing, authors are requested to send three copies of all submissions to the Applied Probability Office in Sheffield**, rather than to individual editors. Authors overseas are asked to ensure that their submissions are sent by airmail. The Editor-in-Chief and the Applied Probability Office are in regular contact and full details of all papers submitted are available to Professor Gani at the University of California at Santa Barbara.

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