

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in which probability models can be usefully developed, (4) papers in applied probability presented at conferences which do not publish their proceedings, and finally, (5) letters to the editor on any appropriate topic in applied probability.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 16 No. 4 of *Advances* contains the following papers:

K. V. MITOV, V. A. VATUTIN AND N. M. YANEV. Continuous-time branching processes with decreasing state-dependent immigration

D. P. GAVER, P. A. JACOBS AND G. LATOUCHE. Finite birth-and-death models in randomly changing environments

HANS-OTTO GEORGII. On the ferromagnetic and the percolative region of random spin systems

S. P. LALLEY. Limit theorems for first-passage times in linear and non-linear renewal theory

MOSHE HAVIV AND LUDO VAN DER HEYDEN. Perturbation bounds for the stationary probabilities of a finite Markov chain

K. F. TURKMAN AND A. M. WALKER. On the asymptotic distributions of maxima of trigonometric polynomials with random coefficients

M. DEISTLER AND B. M. PÖTSCHER. The behaviour of the likelihood function for ARMA models

HANS DADUNA. Burke's theorem on passage times in Gordon–Newell networks

F. BACCELLI, P. BOYER AND G. HEBUTERNE. Single-server queues with impatient customers

UWE JANSEN. Conditional expected sojourn times in insensitive queueing systems and networks

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Department of Probability and Statistics,
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NOW AVAILABLE

ESSAYS IN STATISTICAL SCIENCE

The Applied Probability Trust has now issued a supplementary volume No. 19A of the *Journal of Applied Probability* (JAP). Entitled *Essays in Statistical Science*, this book consists of a collection of papers on a range of topics including statistical theory, stochastic processes, time series, geometric probability and mathematical genetics. It has been published as a Festschrift in honour of the sixty-fifth birthday of Professor P. A. P. Moran FAA, FRS, of the Department of Statistics, Australian National University, Canberra, an editor of JAP since its first volume in 1964.

This special volume is edited by J. Gani and E. J. Hannan and contains contributions from the following colleagues and students of Professor Moran: M. S. Bartlett, B. Benjamin, V. Cane, H. Cohn, D. J. Daley, H. E. Daniels, A. W. Davis, P. Erdős, W. J. Ewens, P. D. Finch, J. Gani, J. M. Hammersley, E. J. Hannan, A. M. Hasofer, C. R. Heathcote, C. C. Heyde, D. G. Kendall, J. F. C. Kingman, R. McNamee, D. R. McNeil, R. J. Maillardet, R. E. Miles, B. H. Neumann, M. Osborne, D. K. Pickard, D. Pollard, B. C. Rennie, E. L. Scott, E. Seneta, C. A. B. Smith, D. Vere-Jones, I. Vincze, G. S. Watson, G. A. Watterson, M. Westcott, P. Whittle, E. J. Williams and S. R. Wilson.

Essays in Statistical Science is in the usual JAP format (250 × 170 mm), with 434 pages, and has an attractive dust jacket and hard binding. The price is £18.00 (US\$30.00; \$A.33.00). Orders should be sent to the Executive Editor, Applied Probability, Department of Probability and Statistics, The University, Sheffield S3 7RH, England.

General Irreducible Markov Chains and Non-negative Operators

ESA NUMMELIN

Presenting the theory of general irreducible Markov chains in a self-contained manner, this book points out the connection between this and the Perron-Frobenius theory of non-negative operators. The author emphasises recent developments and discusses application to such topics as queueing theory, storage theory, autoregressive processes and renewal theory.

Contents: Preliminaries. Irreducible kernels. Transience and recurrence. Embedded renewal processes. Positive and null recurrence. Total variation theorems. Miscellaneous limit theorems for Harris-recurrent Markov chains. Notes and comments. References.
Index. **£20.00 net**

Cambridge Tracts in Mathematics 83

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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 in Lexington.

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