

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in which probability models can be usefully developed, (4) papers in applied probability presented at conferences which do not publish their proceedings, and finally, (5) letters to the editor on any appropriate topic in applied probability.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. 3 of *Advances* contains the following papers:

J. D. BIGGINS AND C. CANNINGS. Markov renewal processes, counters and repeated sequences in Markov chains

S. P. ELLIS. Second-order approximation to the characteristic functions of certain point-process integrals

JOSEPH ABATE AND WARD WHITT. Transient behavior of regulated Brownian motion,

I: starting at the origin

II: non-zero initial conditions

USHIO SUMITA AND YASUSHI MASUDA. Classes of probability density functions having Laplace transforms with negative zeros and poles

K. SOBCZYK. Stochastic models for fatigue damage of materials

MIKLÓS CSÖRGÓ, PAUL DEHEUEVELS AND LAJOS HORVÁTH. An approximation of stopped sums with applications in queueing theory

TOMASZ ROLSKI. Approximation of periodic queues

X. R. CAO. Realization probability in closed Jackson queueing networks and its application

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Executive Editor, Applied Probability,
Department of Probability and Statistics,
The University, Sheffield S3 7RH, England.

Traffic Processes in Queueing Networks

A Markov Renewal Approach

Ralph L. Disney and Peter C. Kiessler

The book offers a full characterization of traffic in queueing networks and relates separate processes to each other by developing new concepts of equivalence and reversibility. A new model of semi-Markov switching shows how earlier results can be extended beyond the Markov network cases. The authors provide a probability structure for queueing networks commonly analyzed by computer simulation and develop an important new framework in which to examine queueing problems encountered in such applications as road traffic studies, biological, medical, and sociological models, and equipment reliability and replacement models. In a final chapter Disney and Kiessler give correlational results for cross dependencies of traffic processes.

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FIRST ANNOUNCEMENT

International Conference on Mathematical Modelling in Science & Technology
Indian Institute of Technology, Madras, India, 11–14 August 1988

Papers on modelling on all aspects of the sciences, engineering, technology and industries with sufficient mathematics input through analytical methods / techniques such as discrete / numerical / probabilistic / optimization..., are invited. Broad themes of the conference include, but are not confined to engineering sciences, theoretical physics, biomedical systems, mathematics in industries, energy resources, economic problems, ecology and environmental studies, methodology and curriculum development...

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Tentative Targets

Receipt of Application and Abstract	1st November	1987
Notification of Acceptance	1st January	1988
Receipt of Photo-Ready Paper/Poster	1st May	1988
Mailing of Preliminary Programme	15th June	1988
Advance Registration (US \$ 150/-)	15th July	1988

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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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