

# *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models can be usefully developed, and finally, (4) papers in Applied Probability presented at conferences which do not publish their proceedings.

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.

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Volume 10 No. 1 of *Advances* contains the following papers:

## SYMPOSIUM ON MATHEMATICAL GENETICS OXFORD, 4-5 April 1977

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|---|---|
| C. CANNINGS, E. A. THOMPSON<br>AND M. H. SKOLNICK | Pedigree functions on complex pedigrees   |
| J. D. BIGGINS                                     | The asymptotic shape of the branching random walk   |
| DENIS MOLLISON                                    | Markovian contact processes   |
| SØREN ASMUSSEN AND<br>NIELS KEIDING               | Martingale central limit theorems and asymptotic estimation theory for multitype branching processes                    |
| DAG TJØSTHEIM                                     | Statistical spatial series modelling  |
| R. T. SMYTHE AND<br>JOHN C. WIERMAN               | First-passage percolation on the square lattice. III  |
| WILLIAM E. BOYCE                                  | Approximate solution of random ordinary differential equations  |
| MARCEL F. NEUTS                                   | Markov chains with applications in queueing theory, which have a matrix-geometric invariant probability vector          |
| JOHN DAGSVIK                                      | Stability and heavy traffic results for the general bulk queue  |
| E. EL-NEWEIHI, F. PROSCHAN<br>AND J. SETHURAMAN   | A simple model with applications in structural reliability, extinction of species, inventory depletion and urn sampling |

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Manuscripts should be written in English or French; manuscripts 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*. Authors are requested to comply with the following instructions in submitting their papers:

Authors in Britain, Europe, North and South America should send *three copies* of their submissions to the Applied Probability Office in Sheffield.

Authors in Australasia and the Far East should send *three copies* of their submissions to the Editor-in-Chief, Dr. J. Gani, in Canberra.

The Editor-in-Chief and the Applied Probability Office are in direct contact by Telex, and full details of the papers submitted either in Sheffield or Canberra are available in both centres.

Alternatively, authors may submit papers to any of the Editors listed on the inside front cover. In this case, *two copies* of the submission should be sent to the Editor concerned, and *one copy*, with a copy of the covering letter, should be sent to the Applied Probability Office in Sheffield.

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- b) Each paper submitted 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.
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Feller, W. (1961) A simple proof of renewal theorems. *Comm. Pure Appl. Math.* **14**, 285–293.  
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- e) Indices and subscripts should be clearly distinguished, using the marking  $\downarrow$   $\hat{\phantom{a}}$  where necessary.

Authors will receive only first proofs for correction; charges will be made for excessive alteration to these.

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