

JOURNAL OF APPLIED PROBABILITY

VOLUME 38

NUMBER 2

JUNE 2001



EDITOR-IN-CHIEF C. C. HEYDE

FOUNDING EDITOR (1964–1989) J. GANI

JOURNAL OF APPLIED PROBABILITY

This is an international journal published by the Applied Probability Trust in association with the London Mathematical Society; it contains research papers and notes on applications of probability theory to the biological, physical, social and technological sciences. An annual volume of approximately 1200 pages is published in four issues appearing in March, June, September and December.

EDITORIAL BOARD

Editor-in-Chief C. C. HEYDE (Columbia University and Australian National University)

Coordinating Editors N. H. BINGHAM (University of London)
M. F. NEUTS (University of Arizona)

Editors R. J. ADLER (Technion, Haifa)
A. J. BADDELEY (University of Western Australia)
P. BRÉMAUD (École Polytechnique, Palaiseau)
C. CANNINGS (University of Sheffield)
E. ÇINLAR (Princeton University)
D. J. DALEY (Australian National University)
P. J. DONNELLY (University of Oxford)
P. EMBRECHTS (ETH, Zürich)
A. HORDIJK (Universiteit Leiden)
P. JAGERS (Chalmers University of Technology and Göteborgs Universitet)
S. JANSON (Uppsala Universitet)
G. KERSTING (Johann Wolfgang Goethe-Universität, Frankfurt am Main)
J. F. C. KINGMAN (University of Bristol)
C. KLÜPPELBERG (Technische Universität München)
T. MIKOSCH (Københavns Universitet)
S. I. RESNICK (Cornell University)
L. C. G. ROGERS (University of Bath)
J. L. TEUGELS (Katholieke Universiteit Leuven)
R. L. TWEEDIE (University of Minnesota)
D. VERE-JONES (Victoria University of Wellington)
R. R. WEBER (University of Cambridge)
W. WHITT (AT&T Laboratories, Florham Park, NJ)

EDITORIAL OFFICE

Executive Editor L. J. NASH (University of Sheffield)

Production Editor D. A. CRUICKSHANK (University of Sheffield)

All correspondence relating to the submission of papers should be sent to: The Executive Editor, Applied Probability, School of Mathematics and Statistics, University of Sheffield, Sheffield S3 7RH, UK. Subscription rates and notes for contributors are to be found on the inside back cover.

ROLLO DAVIDSON TRUST

The Trustees of the Rollo Davidson Trust give notice that they have awarded the Rollo Davidson Prize for 2001 as follows:

Richard Kenyon (Université Paris-Sud), in recognition of his achievements in the study of discrete lattice systems, for his proof of the scaling limit and conformal invariance of domino tilings and the uniform spanning tree in two dimensions.

FORTHCOMING PAPERS

Journal of Applied Probability

- ILAN ADLER AND SHELDON M. ROSS. The coupon subset collection problem
- DAVID ALDOUS, MASAKIYO MIYAZAWA AND TOMASZ ROLSKI. On the stability of a batch clearing system with Poisson arrivals and subadditive service times
- MARINA ALEXANDERSSON. On the existence of the stable birth type distribution in a general branching process cell cycle model with unequal cell division
- NADER EBRAHIMI. A stochastic covariate failure model for assessing system reliability
- XIN GUO AND LARRY SHEPP. Some optimal stopping problems with nontrivial boundaries for pricing exotic options
- OFFER KELLA AND MASAKIYO MIYAZAWA. Parallel fluid queues with constant inflows and simultaneous random reductions
- NAOTO MIYOSHI. On the stationary workload distribution of work-conserving single-server queues: a general formula via stochastic intensity
- RALPH NEININGER. Rates of convergence for products of random stochastic 2×2 matrices
- M. S. SGIBNEV. An asymptotic expansion for the expectation of an age-dependent branching process with a submultiplicative estimate of the remainder

Advances in Applied Probability

Stochastic Geometry and Statistical Applications

- FRANÇOIS BACCELLI AND BARTŁOMIEJ BŁASZCZYSZYN. On a coverage process ranging from the Boolean model to the Poisson–Voronoi tessellation with applications to wireless communications
- HUILING LE. Locating Fréchet means with application to shape spaces
- M. N. M. VAN LIESHOUT AND E. W. VAN ZWET. Exact sampling from conditional Boolean models with applications to maximum likelihood inference
- RICHARD A. VITALE. Intrinsic volumes and Gaussian processes

General Applied Probability

- PIETER ALLAART AND MICHAEL MONTICINO. Optimal stopping rules for directionally reinforced processes
- O. J. BOXMA AND I. A. KURKOVA. The $M/G/1$ queue with two service speeds
- JÓZSEF BUKSZÁR. Upper bounds for the probability of a union by multitreese
- E. DI NARDO, A. G. NOBILE, E. PIROZZI AND L. M. RICCIARDI. A computational approach to first-passage-time problems for Gauss–Markov processes
- R. T. DUNN AND K. D. GLAZEBROOK. The performance of index-based policies for bandit problems with stochastic machine availability
- JAMES LEDOUX AND LAURENT TRUFFET. Markovian bounds on functions of finite Markov chains
- LAURA M. MORATO AND PAOLA SIRI. A stochastic algorithm to compute optimal probabilities in the chaos game
- DIDIER PIAU. Processus de branchement en champ moyen et réaction PCR
- HUI WANG. Some control problems with random intervention times

The Mathematical Scientist

Edited by J. M. Gani

Providing an unusually non-specialist forum for papers with a mathematical emphasis, *The Mathematical Scientist* has an appreciative readership amongst mathematicians, computer scientists, statisticians and scientists in all areas where mathematical techniques are used.

Now in its 26th year of publishing, *The Mathematical Scientist* is an invaluable source of information on mathematical theory, methods and modelling applied to phenomena in the engineering, earth, physical, biomedical and socioeconomic sciences.

Recent and forthcoming papers include:

- Mathematics and the human genome project *Warren Ewens*
- A probabilistic approach to identifying positive value cash flows *Ilan Adler and Sheldon M. Ross*
- Chebyshev's influence on the development of mathematics *S. N. Bernstein*
- Tiling with Penrose rhomb clusters *Ellen Perstein*
- Statistical modelling and prediction associated with the HIV/AIDS epidemic *P. J. Solomon and S. R. Wilson*

The Mathematical Scientist ISSN 0312 3685 Published in June and December

Subscription rates (post free) for individuals and institutions for Volume 26 (2001): £11.00, US\$18.15, Aus\$28.60. To subscribe, please contact S. C. Boyles (Tel: +44 (0)114 222 3922; Fax: +44 (0)114 272 9782 Email: s.c.boyles@sheffield.ac.uk;) or send an order payable to *The Mathematical Scientist* to: Applied Probability, School of Mathematics and Statistics, University of Sheffield, Sheffield S3 7RH, UK.

For more information, visit our website:
<http://www.appliedprobability.org>

