JOURNAL OF APPLIED PROBABILITY
VOLUME 19 (1982): INDEX

ABDEL-HAMID, A. R., BATHER, J. A. AND TRUSTRUM, G. B. The problem with an unknown number of candidates 632–643

ABDEL-MONEIM, A. M. AND LEYSIEFFER, F. W. Weak lumpability in finite Markov chains 685–691

ADÈS, M., DION, J.-P., LABELLE, G. AND NANTHI, K. Recurrence formula and the maximum likelihood estimation of the age in a simple branching process 776–784

ANDERSEN, S. AND RUDEMO, M. Filtering counts of cars entering and leaving a parking place 64– 71

ANDERSON, E. J., NASH, P. AND WEBER, R. R. A counterexample to a conjecture on optimal list ordering 730–732

ARNOLD, B. C. *See under* Scott, M.

ATTIA, F. A. AND BROCKWELL, P. J. The control of a finite dam 815–825

BAGLEY, J. H. Asymptotic properties of subcritical Galton–Watson processes 510–517

BARBOUR, A. D. Generalized semi-Markov schemes and open queueing networks 469–474

BATHER, J. A. *See under* Abdel-Hamid, A. R.

BESAG, J., MILNE, R. AND ZACHARY, S. Point process limits of lattice processes 210–216

BEUTLER, F. J. AND MELAMED, B. Multivariate Poisson flows on Markov step processes 289–300

BLAISDELL, B. E. AND SOLOMON, H. Random sequential packing in Euclidean spaces of dimensions three and four and a conjecture of Palásti 382–390

BLOCK, H. W. AND SAVITS, T. H. A decomposition for multistate monotone systems 391–402

BLOM, G. On the mean number of random digits until a given sequence occurs 136–143

——— AND THORBURN, D. How many random digits are required until given sequences are obtained? 518–531

BRAINERD, B. On the relation between the type-token and the species-area problems 785–793

BROCKWELL, P. J., RESNICK, S. I. AND PACHECO-SANTIAGO, N. Extreme values, range and weak convergence of integrals of Markov chains 272–288

——— *See under* Attia, F. A.

CACOULLOS, T. AND PAPAGEORGIOU, H. Characterizing the negative binomial distribution (letter to the editor) 742–743

CHERNICK, M. R. Letter to the editor 250

CHIANG, C. L. *See under* Yang, G.

COBB, L. *See under* Smith, C. E.

COLWELL, P. *See under* Isaacson, D.

CONOLLY, B. W. Letter to the editor 904–905

CUMBERLAND, W. G. AND SYKES, Z. M. Weak convergence of an autoregressive process used in modeling population growth 450–455

DANIELS, H. E. The saddlepoint approximation for a general birth process 20– 28

DAVIES, G. S. Control of grade sizes in a partially stochastic Markov manpower model 439–443

DE MEYER, A. On a theorem of Bingham and Doney 217–220

DIETER, U. An alternate proof for the representation of discrete distributions by equiprobable mixtures 869–872

DION, J.-P. *See under* Adès, M.

DOREA, C. C. Y. Connectivity of random graphs 880–884

DUNSTAN, R. The rumour process 759–766

EBRAHIMI, N. *See under* Ghosh, M.

FAKINOS, D. The *M/G/k* group-arrival group-departure loss system 826–834

FANG, K.-T. A restricted occupancy problem 707–711
FEIGIN, P. D. AND YASHCHIN, E. Extreme-value properties of the explosion-time distribution in a pure birth process 500–509
GALBRAITH, R. F. AND WALLEY, D. Further properties for unilateral binary processes 332–343
GATES, J. Recognition of triangles and quadrilaterals by chord length distribution 873–879
——— The number of intersections of random chords to a circle — third and fourth moments 355–372
GHOSH, M. AND EBRAHIMI, N. Shock models leading to increasing failure rate and decreasing mean residual life survival 158–166
GIRLING, A. J. Approximate variances associated with random configurations of hard spheres 588–596
GLAZEBROOK, K. D. On a sufficient condition for superprocesses due to Whittle 99–110
——— On the evaluation of suboptimal strategies for families of alternative bandit processes 716–722
HAJEK, B. Birth-and-death processes on the integers with phases and general boundaries 488–499
HALL, G. R. Acute triangles in the *n*-ball 712–715
HALL, P. On Starr and Vardi's estimates of the number of transmission sources 52– 63
HASLETT, J. New bounds for the thermal energy storage process with stationary input 894–899
HENZE, N. The limit distribution for maxima of 'weighted' *r*th nearest-neighbour distances 344–354
HEYDE, C. C. *See under* Najock, D.
——— *See under* Pakes, A. G.
HEYMAN, D. P. On Ross's conjectures about queues with non-stationary Poisson arrivals 245–249
HICKEY, R. J. A note on the measurement of randomness 229–232
HINES, W. G. S. Mutations, perturbations and evolutionarily stable strategies 204–209
——— Strategy stability in complex randomly mating diploid populations 653–659
HOLST, L. *See under* Siegel, A. F.
HÖPFNER, R. Local limit theorems for non-critical Galton–Watson processes with or without immigration 262–271
HULL, D. M. A necessary condition for extinction in those bisexual Galton–Watson branching processes governed by superadditive mating functions 847–850
HÜSLER, J. Random coverage of the circle and asymptotic distributions 578–587
HWANG, J. T. AND ZIDEK, J. V. Limit theorems for out-guesses with mean-guided second guessing 321–331
ISAACSON, D. *See under* Scott, M.
——— AND COLWELL, P. Levels of null persistency for Markov chains 425–429
ISOKAWA, Y. An identification problem in almost and asymptotically almost periodically correlated processes 456–462
JANSSEN, J. AND REINHARD, J. M. Some duality results for a class of multivariate semi-Markov processes 90– 98
JEWELL, N. P. AND ROMANO, J. P. Coverage problems and random convex hulls 546–561
JOFFE, A. Un modèle probabiliste utile en biologie moléculaire 660–663
——— AND WAUGH, W. A. O'N. Exact distributions of kin numbers in a Galton–Watson process 767–775
KAPLAN, N. A note on the branching random walk 421–424
KARLIN, S. AND TAVARÉ, S. Linear birth and death processes with killing 477–487
KEILSON, J. On the distribution and covariance structure of the present value of a random income stream 240–244
KENDALL, D. G. Appreciation by G. E. H. Reuter 900
KENNEDY, D. P. On a constrained optimal stopping problem 631–641
KLEBANER, F. C. AND SCHUH, H.-J. A connection between the limit and the maximum random variable of a branching process in varying environments 681–684
KOLONKO, M. Strongly consistent estimation in a controlled Markov renewal model 532–545
KOROLJUK, V. S. Letter to the editor 901

KUCZEK, T. Almost sure limit results for the supercritical Bellman–Harris process 668–674
KULKARNI, V. G. Letter to the editor 901–904
KUULASMAA, K. The spatial general epidemic and locally dependent random graphs 745–758
LABELLE, G. *See under* Adès, M.
LACAYO, H. AND LANGBERG, N. A. The exact and asymptotic formulas for the state probabilities in simple epidemics with m kinds of susceptibles 1– 9
LANGBERG, N. A. *See under* Lacayo, H.
LEYSIEFFER, F. W. *See under* Abdel-Moneim, A. M.
LINDVALL, T. On coupling of continuous-time renewal processes 82– 89
LOCKHART, R. On the non-existence of consistent estimates in Galton–Watson processes 842–846
MCKENZIE, E. Product autoregression: a time-series characterization of the gamma distribution 463–468
MASE, S. Asymptotic properties of stereological estimators of volume fraction for stationary random sets 111–126
MEHREZ, A. *See under* Stulman, A.
MELAMED, B. *See under* Beutler, F. J.
MENDELSON, H. A batch-ballot problem and applications 144–157
MILNE, R. *See under* Besag, J.
MIYAZAWA, M. Simple derivations of the invariance relations and their applications 183–194
MONAHAN, G. E. Optimal stopping on a partially observable binary-valued Markov chain with costly perfect information 72– 81
MURTHY, D. N. P. AND NGUYEN, D. G. A note on extended block replacement policy with used items 885–889
NAGARAJA, H. N. Record values and extreme value distributions 233–239
——— Some asymptotic results for the induced selection differential 253–261
NAJOCK, D. AND HEYDE, C. C. On the number of terminal vertices in certain random trees with an application to stemma construction in philology 675–680
NANTHI, K. Estimation of the variance for the multitype Galton–Watson process 408–414
——— *See under* Adès, M.
NASH, P. *See under* Anderson, E. J.
NATVIG, B. On the reduction in remaining system lifetime due to the failure of a specific component 642–652
NELSON, P. R. The transposition replacement policy with a partial memory 733–736
NGUYEN, D. G. *See under* Murthy, D. N. P.
PACHECO-SANTIAGO, N. *See under* Brockwell, P. J.
PAKES, A. G. AND HEYDE, C. C. Optimal estimation of the criticality parameter of a supercritical branching process having random environments 415–420
PAPAGEORGIOU, H. *See under* Cacoullos, T.
PFEIFER, D. Characterizations of exponential distributions by independent non-stationary record increments 127–135
Correction 906
——— The structure of elementary pure birth processes 664–667
PHAM, T. D. AND TRAN, L. T. Correction to *J. Appl. Prob.* **18**, 617–627 744
PICKARD, D. K. Isolated nearest neighbours 444–449
PRASAD, V. R. Letter to the editor 741
PROROK, P. C. Bounded recurrence times and lead time in the design of a repetitive screening program 10– 19
Correction 906
PURI, P. S. On the characterization of point processes with the order statistic property without the moment condition 39– 51
REINHARD, J. M. *See under* Janssen, J.
RESNICK, S. I. See under Brockwell, P. J.
ROMANO, J. P. *See under* Jewell, N. P.
ROSALSKY, A. *See under* Yang, M. C. K.
ROSBERG, Z. Semi-Markov decision processes with polynomial reward 301–309

ROUTLEFF, C. A variation of Weiss's carrier-borne epidemic model 403–407
RUDEMO, M. *See under* Andersen, S.
RÜSCHENDORF, L. Comparison of percolation probabilities 864–868
SAVITS, T. H. *See under* Block, H. W.
SCHUH, H.-J. Sums of i.i.d. random variables and an application to the explosion criterion for Markov branching processes 29– 38
——— *See under* Klebaner, F. C.
SCOTT, M., ARNOLD, B. C. AND ISAACSON, D. L. Strong ergodicity for continuous-time, non-homogeneous Markov chains 692–694
SENGUPTA, B. An exponential riddle 737–740
SHAKED, M. Dispersive ordering of distributions 310–320
SIEGEL, A. F. AND HOLST, L. Covering the circle with random arcs of random sizes 373–381
SMITH, C. E. AND COBB, L. The stationary moments of Poisson-driven non-linear dynamical systems 702–706
SOBEL, M. J. The variance of discounted Markov decision processes 794–802
SOLOMON, H. *See under* Blaisdell, B. E.
STAM, A. J. Limit theorems for uniform distributions on spheres in high-dimensional Euclidean spaces 221–228
STULMAN, A. AND MEHREZ, A. A note describing the marginal benefits of spares on availability 890–893
SYKES, Z. M. *See under* Cumberland, W. G.
TAMAKI, M. An optimal parking problem 803–814
TAN, C.-P. A functional form for a particular coefficient of ergodicity 858–863
TAVARÉ, S. *See under* Karlin, S.
THORBURN, D. *See under* Blom, G.
TRAN, L. T. *See under* Pham, T. D.
TRUSTRUM, G. B. *See under* Abdel-Hamid, A. R.
VASSILIOU, P.-C. G. Asymptotic behavior of Markov systems 851–857
——— On the limiting behaviour of a non-homogeneous Markovian manpower model with independent Poisson input 433–438
WACKERLEY, D. D. *See under* Yang, M. C. K.
WALLEY, D. *See under* Galbraith, R. F.
WALRAND, J. On the equivalence of flows in networks of queues 195–203
WAUGH, W. A. O'N. *See under* Joffe, A.
WEBER, R. R. Scheduling jobs with stochastic processing requirements on parallel machines to minimize makespan or flowtime 167–182
——— *See under* Anderson, E. J.
WEISSMAN, I. Asymptotic sample extremes are not functions of an extreme process — a counterexample (letter to the editor) 475–476
WHITT, W. Multivariate monotone likelihood ratio and uniform conditional stochastic order 695–701
WILLIAMS, E. J. Correction to *J. Appl. Prob.* **19A**, 293–303 907
WILLIE, J. S. Covariation of a time series and a point process 609–618
——— Measuring the association of a time series and a point process 597–608
WOODS, A. J. First-passage times for the partial sum of a sequence of geometric distributions 430–432
YADIN, M. AND ZACKS, S. Random coverage of a circle with applications to a shadowing problem 562–577
YANG, G. AND CHIANG, C. L. On interarrival times in simple stochastic epidemic models 835–841
YANG, M. C. K., WACKERLY, D. D. AND ROSALSKY, A. Optimal rules in proofreading 723–729
YASHCHIN, E. *See under* Feigin, P. D.
ZACHARY, S. *See under* Besag, J.
ZACKS, S. *See under* Yadin, M.
ZIDEK, J. V. *See under* Hwang, J. T.

TEACHING STATISTICS IN SCHOOLS THROUGHOUT THE WORLD

A new publication of the International Statistical Institute, 1982, pp. xvi + 250, editor V. Barnett.

This volume reviews the exact nature of statistical education in approximately 20 different countries. Individuals with first-hand experience of the prevailing circumstances have given personal descriptions of the present situation, the way it has developed, and possible future prospects, in both developed and developing countries. The general structure of school education in each is outlined in order to clarify understanding of the provisions made for teaching statistics. Information is provided concerning the types of schools, the pupils catered for, principles of administration of the educational system, methods of teacher training, patterns for examinations, prospects for curriculum reform, etc. The titles of chapters and names of authors are as follows:

1. Statistical education in schools in England and Wales: V. Barnett
2. Report on stochastics at high schools in the Federal Republic of Germany: H. Dinges
3. Problems raised by the teaching of probability theory and statistics in French secondary schools: P. L. Hennequin
4. Pre-university stochastics teaching in Hungary: T. Nemetz
5. The teaching of stochastics in Italian upper secondary schools: A. Zuliani
6. Statistical education in schools in Sweden: A. af Ekenstam
7. Statistical education at the school level in the United States and Canada: R. V. Hogg and J. Swift
8. Teaching statistics in schools in Australia: J. B. Douglas
9. School-level statistical education in New Zealand: J. B. Douglas
10. Some problems of the teaching of statistics in developing countries — the Nigerian example: J. O. Oyelese
11. Statistical education in schools in Uganda and other East African states: S. Tulya-Muhika
12. The teaching of statistics in the secondary schools of Sudan: D. Y. Downham and H. Gattar
13. Statistical education in South African schools: J. M. Juritz
14. Teaching statistics in schools in Argentina: L. A. Santaló
15. Teaching statistics at school level in Malaysia: V. Barnett
16. Some publications on teaching statistics in Japan: V. Barnett

The book is intended to be of service not only to those involved in teaching statistics as a separate discipline within schools, but also to those teachers and educators who are involved with teaching statistics as part of other disciplines, for example, biology, chemistry, mathematics, physics, and the social sciences.

The price of the volume is US $10 or £6. Orders should be directed to:

The International Statistical Institute,
428 Prinses Beatrixlaan,
P.O. Box 950,
2270 AZ Voorburg,
Netherlands.

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, 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.

Volume 14 No. 4 of *Advances* contains the following papers:

R. H. NORDEN. On the distribution of the time to extinction in the stochastic logistic population model

P. J. BROCKWELL, J. GANI AND S. I. RESNICK. Birth, immigration and catastrophe processes

H.-J. SCHUH. Seneta constants for the supercritical Bellman–Harris process

E. A. THOMPSON. Optimal sampling for pedigree analysis: tracing a single gene

KNUT KRISTIAN AASE. Stochastic continuous-time model reference adaptive systems with decreasing gain

PAUL McGILL. Markov properties of diffusion local time: a martingale approach

SIMEON M. BERMAN. Sojourns and extremes of a diffusion process on a fixed interval

JONATHAN P. COHEN. Convergence rates for the ultimate and penultimate approximations in extreme-value theory

LENNART BONDESSON. On simulation from infinitely divisible distributions

J. B. G. FRENK. The behavior of the renewal sequence in case the tail of the waiting-time distribution is regularly varying with index -1

MICHEL DEHON AND GUY LATOUCHE. A geometric interpretation of the relations between the exponential and generalized Erlang distributions

MICHAEL L. PINEDO AND SHELDON M. ROSS. Minimizing expected makespan in stochastic open shops

Subscription rates (per volume) for the *Advances* in 1982 are the same as for the *Journal* (see inside back cover). A discount of 10% is allowed to subscribers who order current issues of both the *Journal* and *Advances* at the same time direct from the Applied Probability Office. A detailed price list for both current and back issues is available on request.

Cheques made out on U.S., U.K. and Australian banks will be acceptable: they should be made payable to *Applied Probability*, and sent to:

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

PERSPECTIVES IN PROBABILITY AND STATISTICS

Papers in honour of M. S. Bartlett on the occasion of his sixty-fifth birthday

Editor: J. GANI

Contributors

P. Armitage
N. T. J. Bailey
G. A. Barnard
A. Blanc-Lapierre
V. R. Cane
W. G. Cochran
J. W. Cohen
D. R. Cox
H. Cramér
H. E. Daniels
J. Gani
U. Grenander
J. M. Hammersley
E. J. Hannan
D. G. Kendall
J. F. C. Kingman
A. M. Kshirsagar
T. Lewis
P. D. M. Macdonald
P. Meier
P. A. P. Moran
C. R. Rao
C. A. B. Smith
H. Solomon
L. Takács
P. Tautu
D. Vere-Jones
P. Whittle
E. J. Williams
H. Wold

Pp. viii + 423

This book was published by the Applied Probability Trust in 1975 as a tribute to Professor Bartlett from colleagues throughout the world. Due to difficulties in storing the remaining stock, we are now making copies available to our readers and subscribers at only £3.50 (US$7.00; $A.6.00) to cover administrative costs, postage and packing. Please order your copy now from

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

Remittances to 'Applied Probability', please.

'..... there is variety and imagination in this volume..... Through their enthusiasm and ingenuity these 30 authors have provided a fitting tribute to a master.'

David Hinkley in *Science*

'The text is a delight to read, and several of the papers are gems in their own right..... it contains many stimulating ideas for potential research students.'

Eric Renshaw in *British Book News*

'..... there are substantial original contributions and magisterial summaries of important areas of knowledge..... The volume is a pleasure to browse in. It has benefitted from careful editing and production.'

John Hajnal in *JRSS* A

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. Erdös, 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$43.00; $A.37.00). Orders should be sent to the Excutive Editor, Applied Probability, Department of Probability and Statistics, The University, Sheffield S3 7RH, England.

ANNOUNCEMENT

LETTERS TO THE EDITOR

Starting with Volume 15 (1983), a new section will be provided in *Advances in Applied Probability* (AAP) for Letters to the Editor. We accordingly invite readers to submit for publication contributions on any appropriate topic in applied probability. Before acceptance, letters will be examined by an editor or referee; ideally they should not exceed two printed pages in length.

Provided letters do not contain unusual notation, artwork, or incomplete references, it should in most cases be possible to publish in a given issue of AAP those which reach us not less than four months before its publication date. We look forward to receiving lively contributions from our readers for this new section. These should be addressed as follows:

Letters to the Editor,
Applied Probability,
Department of Probability and Statistics,
University of Sheffield,
Sheffield S3 7RH, England.

Note: We shall continue to publish in the *Journal of Applied Probability* letters relating specifically to papers which have appeared there.

Subscription rates

Subscription rates (post free) for the 1982 volume of the *Journal* are as follows:

US$108.00, $A93.00, £45.00 for libraries and institutions;

US$36.00, $A31.00, £15.00 for individuals belonging to a recognised scientific society.

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

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 general 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.

Authors are requested to send three copies of their submissions to the Applied Probability office in Sheffield. If authors consider their papers are in the particular field of expertise of one of the editors listed on the inside front cover, they may submit two copies of the paper to the editor concerned. One copy, with a copy of the covering letter, should then be sent to the Applied Probability office in Sheffield so that complete records can be kept there. Authors overseas are asked to ensure that their submissions are sent by airmail. The Editor-in-Chief and the Applied Probability office are in direct contact by telex and full details of all papers submitted to Sheffield are available to Professor Gani in Lexington.

Copyright. The copyright of all published papers shall be vested in the Trust. When a paper is accepted for publication, the Trust requests the author(s) to sign a form assigning copyright to the Trust. Failure to do this promptly may delay or prevent publication.

https://doi.org/10.1017/S0021900200023342 Published online by Cambridge University Press

Volume 19 Number 4

Research Papers

745 KARI KUULASMAA. The spatial general epidemic and locally dependent random graphs

759 ROSS DUNSTAN. The rumour process

767 A. JOFFE AND W. A. O'N. WAUGH. Exact distributions of kin numbers in a Galton–Watson process

776 M. ADÈS, J.-P. DION, G. LABELLE AND K. NANTHI. Recurrence formula and the maximum likelihood estimation of the age in a simple branching process

785 BARRON BRAINERD. On the relation between the type–token and the species–area problems

794 MATTHEW J. SOBEL. The variance of discounted Markov decision processes

803 MITSUSHI TAMAKI. An optimal parking problem

815 F. A. ATTIA AND P. J. BROCKWELL. The control of a finite dam

826 D. FAKINOS. The $M/G/k$ group-arrival group-departure loss system

Short Communications

835 GRACE YANG AND C. L. CHIANG. On interarrival times in simple stochastic epidemic models

842 RICHARD LOCKHART. On the non-existence of consistent estimates in Galton–Watson processes

847 DAVID M. HULL. A necessary condition for extinction in those bisexual Galton–Watson branching processes governed by superadditive mating functions

851 P.-C. G. VASSILIOU. Asymptotic behavior of Markov systems

858 CHOON-PENG TAN. A functional form for a particular coefficient of ergodicity

864 LUDGER RÜSCHENDORF. Comparison of percolation probabilities

869 U. DIETER. An alternate proof for the representation of discrete distributions by equiprobable mixtures

873 J. GATES. Recognition of triangles and quadrilaterals by chord length distribution

880 CHANG C. Y. DOREA. Connectivity of random graphs

885 D. N. P. MURTHY AND D. G. NGUYEN. A note on extended block replacement policy with used items

890 A. STULMAN AND A. MEHREZ. A note describing the marginal benefits of spares on availability

894 J. HASLETT. New bounds for the thermal storage energy process with stationary input

900 Appreciation: Professor D. G. Kendall FRS

901 Letters to the editor

906 Corrections

Published by the **Applied Probability Trust** in association with the **London Mathematical Society**

ISSN 0021–9002