Editor-in-Chief:
J. GANI

Editors:

M.S. BARTLETT R. BELLMAN D.R.COX A. DVORETZKY P.D. FINCH J. HAJNAL J. M. HAMMERSLEY E. J. HANNAN S. KARLIN D. G. KENDALL M.KIMURA D.V. LINDLEY P.A.P. MORAN J. E. MOYAL YU V. PROKHOROV G. E. H. REUTER L. SCHMETTERER J. LAURIE SNELL L. TAKÁCS G.S. WATSON P. WHITTLE

Journal of Applied Probability

Volume 11 Number 3 September 1974 Published by the

APPLIED PROBABILITY TRUST

in association with the

LONDON MATHEMATICAL SOCIETY

© Applied Probability Trust 1974

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 800 pages will be published in four numbers appearing in March, June, September and December.

Submission of papers

Submissions to the Journal may be 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 and longer research papers should be sent to Advances in Applied Probability, a companion journal. Authors are requested to consult the Notes for Contributors on the inside back cover.

Editor-in-Chief:

J. GANI Division of Mathematics and Statistics, C.S.I.R.O., P.O.Box 1965, Canberra City, A.C.T. 2601, Australia.

Editors:

M. S. BARTLETT Department of Biomathematics, Pusey Street, Oxford OX1 2JZ, England.
R. BELLMAN Department of Electrical Engineering, University of Southern California,
Los Angeles, California 90007, U.S.A.

D. R. COX Department of Mathematics, Imperial College of Science and Technology, London SW7 2PJ, England.

A. DVORETZKY Department of Mathematics, Hebrew University of Jerusalem, Israel.
P. D. FINCH Department of Mathematics, Monash University, P.O. Box 92, Clayton, Victoria 3168, Australia,

J. HAJNAL Department of Statistics, London School of Economics, Houghton St., London WC2A 2AE, England.

J. M. HAMMERSLEY Institute of Statistics, Oxford University, Oxford OX1 3UL, England.
E. J. HANNAN Department of Statistics, Australian National University, P.O. Box 4, Canberra, Australia, 2600.

S. KARLIN Department of Mathematics, The Weizmann Institute of Science, P.O. Box 26, Rehovoth, Israel.

D. G. KENDALL Statistical Laboratory, Cambridge University, Cambridge CB2 1SB,

England.

M. KIMURA National Institute of Genetics, Yata I, III, Mishima-shi, Shizuoka-ken,

D. V. LINDLEY Department of Statistics, University College, Gower Street, London WC1E 6BT, England.

P. A. P. MORAN Department of Statistics, Australian National University, P.O. Box 4,

Canberra, Australia, 2600.

J. E. MOYAL School of Mathematics and Physics, Macquarie University, North Ryde, N.S.W. 2113. Australia.

N.S.W. 2113, Australia.

YU. V. PROKHOROV Mathematical Institute of the Academy of Sciences of the U.S.S.R., 1-st Academichesky Proezd 28, Moscow, B-333, U.S.S.R.

G. E. H. REUTER Department of Mathematics, Imperial College of Science and Technology, London SW7 2PJ, England.

L. SCHMETTERER Mathematical Institute of the University of Vienna, Strudlhofgasse 4, Vienna IX, Austria.

J. LAURIE SNELL Department of Mathematics and Astronomy, Dartmouth College, Hanover, N.H. 03755, U.S.A.

L. TAKÁCS Department of Mathematics, Case Western Reserve University, University Circle, Cleveland, Ohio 44106, U.S.A.

G. S. WATSON Department of Statistics, Princeton University, Fine Hall, P.O. Box 708, Princeton, N.J. 08540, U.S.A.

P. WHITTLE Statistical Laboratory, Cambridge University, Cambridge CB2 1SB, England.

Technical Editor: Executive Editor:

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

lied Probability Office,
partment of Probability and Statistics,

MAVIS HITCHCOCK