PROPOSED INTERNATIONAL SYMPOSIUM ON STATISTICAL ECOLOGY

An International Symposium on Statistical Ecology is to be held during August 24–30, 1969, at Yale University and the U.S. Forest Service Research Laboratory, New Haven, Connecticut, U.S.A. Support is being provided by Ford Foundation, Yale University, Pennsylvania State University, the U.S. Forest Service and the Canadian Department of Agriculture.

The proposed symposium is to provide an opportunity for the exchange of ideas and information between ecologists, mathematicians, statisticians, and systems analysts. Particular emphasis will be put on techniques applicable to the solution of man-environment problems. Time will be available for students and researchers to meet the professional scientists as well as to attend the formal sessions. Time will be allowed for discussion in all sessions. Invited and selected papers together with discussions are to be published in the Proceedings of the Symposium.

The international organizing committee consists of E. Batschelet, D. R. Cox, J. Gani, D. W. Goodall, J. Gulland, H. Klomp, V. Labeyrie, B. Matern, C. R. Rao, V. Schultz, J. G. Skellam, L. R. Taylor, E. J. Williams with G. P. Patil, E. C. Pielou and W. E. Waters as co-chairmen. The symposium is expected to include areas such as the growth and regulation of populations, systems analysis and ecological prediction, productivity and the energy relations of eco-systems, population interaction, diffusion and migration, classification and discrimination problems in communities, ecological maps, distribution of species and their diversity, spatial patterns, homogeneity in vegetation, model making and distributions in ecology, sampling biological populations.


Further information is available from Professor G. P. Patil, Department of Statistics, 302 McAllister Building, Pennsylvania State University, University Park, Pennsylvania, 16802, U.S.A.
Review Papers for the

*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. The papers should be approximately 40–50 printed pages in length. On acceptance of a Review Paper for publication in the *Advances*, the author will receive £stg. 40 ($100).

---

**Methuen’s Supplementary Review Series in Applied Probability**

*General Editor:* M. S. BARTLETT, M.A., D.SC., F.R.S.  
*Editor:* J. GANI, D.I.C., PH.D.

This supplementary series consists of the Review Papers from the first four volumes of the *Journal of Applied Probability* in book form. The volumes are written in a simple expository style, and provide research workers and students of Applied Probability with concise accounts of work done in their fields. The eight volumes deal with the applications of Probability Theory to the biological, chemical and technological sciences.

**Volume 1. TIME-DEPENDENT RESULTS IN STORAGE THEORY**  
by N. U. Prabhu

**Volume 2. DIFFUSION MODELS IN POPULATION GENETICS**  
by M. Kimura

**Volume 3. GROUP REPRESENTATIONS AND APPLIED PROBABILITY**  
by E. J. Hannan

**Volume 4. STOCHASTIC MODELS FOR BACTERIOPHAGE** by J. Gani

**Volume 5. RECENT RESULTS IN INFORMATION THEORY** by S. Kotz

**Volume 6. ON THE ALGEBRA OF QUEUES** by J. F. C. Kingman

**Volume 7. COMPLETE EXPONENTIAL CONVERGENCE AND SOME RELATED TOPICS** by C. R. Heathcote

**Volume 8. STOCHASTIC APPROACH TO CHEMICAL KINETICS** by D. A. McQuarrie

Orders for these should be made through your bookseller or direct from: Methuen & Co. Ltd.

**11 NEW FETTER LANE, LONDON EC4**
Subscription rates

Subscriptions (post free) for the 1969 volume of the Journal are:
U.S. $17, £stg. 7.0.0, $A. 15.00, for libraries and institutions;
U.S.$8, £stg. 3.6.0, $A. 7.20, 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 and orders for back numbers should be sent to the Editorial Assistant, Miss M. Hitchcock, Department of Probability and Statistics, The University, Sheffield, S3 7RH, England. The price of back numbers is $ 19.50, £stg. 8.0.0., $A. 17.00 per volume. Cheques, money orders, etc. should be made out to the Journal of Applied Probability; cheques on U.S., U.K. and Australian banks will be acceptable.

Notes for Contributors

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. The copyright of all published papers shall be vested in 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 their date of submission. Authors will receive 100 reprints of their papers free, and joint authors 50 each. Additional reprints will be provided at cost.

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.

It will be of help to the Editors if the following conventions are adopted:

a) The manuscript should be typewritten, using double spacing, on one side of the paper only. The original and a copy, may be submitted to any Editor; a duplicate of the covering letter should, however, be sent to the Editor-in-Chief.

b) References should be indicated in the text by the name of the author(s) and the date, thus: Feller (1961), and the full references listed at the end of the article in alphabetical order. Journal references should include the title of the article cited, the title of the journal (abbreviated in the style of the International Journal of Abstracts: Statistical Theory and Method) the volume, and inclusive page numbers. Book references should give the full title, the publisher, and the place of publication. For example:


c) Type faces should be carefully distinguished on the manuscript using the following standard methods of marking:

- Italic capitals (T, I, R) and lower case letters (t, i, r) should be underlined once, e.g., T, I, R, t, i, r.
- Bold-face capitals (T, I, R) and lower case letters (t, i, r) should have a curly underline, e.g T, I, R, t, i, r.
- Greek characters (α, β, 0) and script letters (Γ, Σ, Ω) should be carefully drawn and identified when first used by a marginal note of the form ‘α—lower case Greek alpha’ or Ω—script Ω’.
- Indices and subscripts should be clearly distinguished, using the marking $^a$, $^i$, $^a$ where necessary.

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

SAMUEL KARLIN 487 Equilibrium behavior of population genetic models with non-random mating. Part II: Pedigrees, homozygosity and stochastic models

Research Papers

P. WHITTLE 567 Equilibrium distributions for an open migration process
B. R. BHAT 572 On an extension of Gani's model for attachment of phages to bacteria
G. F. NEWELL 579 Queues with time-dependent arrival rates. II — The maximum queue and the return to equilibrium
G. F. NEWELL 591 Queues with time-dependent arrival rates. III — A mild rush hour
D. P. GAVER, JR. 607 Diffusion approximations and models for certain congestion problems
DONALD R. McNEIL 624 A solution to the fixed-cycle traffic light problem for compound Poisson arrivals
P. M. WU 636 Storage with deterministic outputs and inputs subject to breakdowns
D. G. LAMPARD 648 A stochastic process whose successive intervals between events form a first order Markov chain — I
JOZEF L. TEUGELS 669 Exponential ergodicity in derived Markov chains
RICHARD MORTON 679 On the dynamic programming approach to Pontriagin's principle
MORRIS SKIBINSKY 693 Extreme nth moments for distributions on [0, 1] and the inverse of a moment space map

Short Communication

D. G. TAMBOURATZIS 702 On a property of the variance of the waiting time of a queue