

# PROBABILITY IN THE ENGINEERING AND INFORMATIONAL SCIENCES

## INSTRUCTIONS FOR CONTRIBUTORS

**CONTRIBUTIONS.** Contributions are welcomed from all countries and must be written in English.

**MANUSCRIPTS.** Three copies of manuscripts should be sent to:

SHELDON ROSS, Editor  
*Probability in the Engineering and Informational Sciences*  
College of Engineering  
Department of Industrial Engineering and Operations Research  
University of California, Berkeley  
Berkeley, CA 94720, U.S.A.  
Tel. (415) 642-3615

Authors should also retain *one copy* of their manuscript for proof checking. Manuscripts sent to the Editor cannot be returned.

Manuscripts are accepted for review with the understanding that the same work has not been and will not be published, nor is presently submitted elsewhere. While under editorial review, it is the responsibility of the author to keep the Editor informed about submissions, publication plans and actual publication of related research or abstracts thereof in other outlets, including journals, review publications, journals in other disciplines, conference proceedings, and published dissertations. It is also understood that all persons listed as authors have given their approval for the submission of the paper and that any person cited as a source of personal communication has given his/her approval for such citation; written authorization may be required at the Editor's discretion. An author is required to obtain written permission for material for which he/she does *not* own copyright.

**MANUSCRIPT ORDER.** Manuscripts should be arranged as follows:

- |                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Cover sheet                | 6. References                       |
| 2. Title page                 | 7. Appendix (optional)              |
| 3. Text                       | 8. Tables with titles (optional)    |
| 4. Acknowledgments (optional) | 9. Figures with captions (optional) |
| 5. Notes (optional)           |                                     |

**PREPARATION OF MANUSCRIPT.** The entire manuscript, including all notes and references, must be typed, **double-spaced** on 8½ × 11 inch or A4 paper leaving wide margins for copyediting. Manuscript pages should be numbered consecutively and include an unnumbered manuscript cover sheet. The cover sheet should list (a) the title of the paper in all upper-case letters, (b) a complete mailing address

(including name) where proofs can be mailed, (c) name and telephone number of the lead author, (d) an abstract of 50 words or less, and (e) a short title of 50 characters or less to be used as a running head. *Page 1* should provide the article title, in all upper case letters, and all authors' names, as they should appear for publication, as well as complete addresses of affiliation. Any footnotes to the title or authors should be listed at the bottom of *Page 1*, as well as any recognition of Grant or other support. Acknowledgments should be listed in a separate section directly preceding the Notes (if there are any) or Reference sections.

**EQUATIONS.** All equations must be typewritten and numbered. The equation numbers should appear in parentheses in the right-hand margin. Text references to equations should take the following form: "For a further discussion of this material, see Eq. (3.2)." All superscripts and subscripts in equations must be clearly typed above and below the line, respectively. End of proof signposts should appear as such: ■.

**TABLES AND FIGURES.** Tables and Figures should be numbered consecutively and appear as one unit after the Reference section. All tables must have titles and all figures must have captions. All tables and figures must have at least one text reference that takes the following form: "For a different view of this matter see Table 1 and Figure 3." Tables may have footnotes that come directly after the body of the table. Table source notes should postcede table footnotes.

Figures must come "ready for reproduction." Figures may be either drawn by a professional artist or computer-generated and outputted on a Laser printer. The publisher cannot redraw any figures unless the author is willing to pay for the cost of such work. All figures should remain legible at a 50% reduction in size.

**NOTES.** When more than a simple reference citation is needed, notes may be used. In general, however, they should be avoided.

**REFERENCES AND TEXT CITATIONS.** References should be cited in the text using the author's (s') last name and the reference number in brackets. If there are more than two authors mentioned, the first author need only be listed along with the "et al." notation. Complete bibliographic information should be listed in the Reference section. In this section, references should be listed alphabetically. The first reference that appears in the alphabetical list should be numbered "1" and subsequent refer-

ences should be numbered accordingly. Below are examples of both text citations and a sample reference list.

Smith and Wollensky [4] have ascertained that the stress factor on metal parts varies with the amount of heavy metal ions included in such metal composition. According to Bishop et al. [1], this variance takes on an exponential factor not unlike that shown in the Mathew's Variable Rate Differential (see Mathew [3, p. 45]). Wing stress tests conducted by the Max Einschuss Laboratory [2] have verified such findings.

### References

1. Bishop, A.H., Brown, I.B., & Baker, Z.T. (1978). A review of the limits of stressography. *International Journal of Metal Stress* 61:455-497.
2. Einschuss, M. (1987). *Laboratory results: 1978-1986*. New York: Cambridge University Press.
3. Mathew, P.B. (1982). A new view on metal stress: The eigenordnung. In P.J. Tucker & S.M. Leder (eds.), *A collection of new wave engineering*. Peabody, MA: Autumn-Orange Press, pp. 104-112.
4. Smith, T.D. & Wollensky, A.R. (1987). *Certain new factors in metal stress research*. Unpublished doctoral dissertation, University of Nevada, Las Vegas. (Available on request from A.R. Wollensky, 724 Cameron Drive, Cleveland, OH 44202.)

### Journal names must not be abbreviated.

For general stylistic questions, *The Chicago Manual of Style* (13th edition) should be used.

### COPYEDITING AND PROOFREADING.

The publisher reserves the right to copyedit and to proofread all articles accepted for publication. Authors will be asked to review proofs of their articles to correct any typographical or technical errors.

**OFFPRINTS.** The lead author will receive 25 free offprints of the published article. An order form will be enclosed with page proofs to facilitate the ordering of additional offprints. After the article is in print, only reprints, in quantities of 50 copies or more, may be ordered by contacting the Journals Production Department (see inside front cover).

**COPYRIGHT ASSIGNMENT.** Authors will be required to transfer their copyright, on certain conditions, to Cambridge University Press.

# PROBABILITY in the Engineering and Informational Sciences

Volume 2

1988

Number 3

## CONTENTS

<i>Branching Bandit Processes</i> Gideon Weiss	269
<i>Approximation in Large-Scale Circuit-Switched Networks</i> P. Whittle	279
<i>Two Applications of Urn Processes: The Fringe Analysis of Search Trees and the Simulation of Quasi-Stationary Distributions of Markov Chains</i> David Aldous, Barry Flannery, and José Luis Palacios	293
<i>Simulating Average Delay – Variance Reduction by Conditioning</i> Sheldon M. Ross	309
<i>An Improvement over the Information Lower Bound in Binomial Group Testing</i> Y. C. Yao	313
<i>Optimal Control of a Model for a System Subject to Continuous Wear</i> Laurence A. Baxter and Eui Yong Lee	321
<i>Length-Biased Orderings with Applications</i> Abdulhamid A. Alzaid	329
<i>Active Redundancy Allocation in Coherent Systems</i> Philip J. Boland, Emad El-Newehi, and Frank Proschan	343
<i>Product Forms for Stochastic Interference Systems</i> N. M. van Dijk and J. P. Veltkamp	355
<i>Conditions under which a Markov Chain Converges to its Steady State in Finite Time</i> Peter W. Glynn and Donald L. Iglehart	377
<i>A Simple Proof of Instability of a Random-Access Communication Channel</i> Sheldon M. Ross	383

Instructions for Contributors (inside back cover)

ISSN 0269-9648

©1988 Cambridge University Press

Printed in the United States of America