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Advances in Ranking and Selection, Multiple Comparisons, and Reliability

Methodology and Applications

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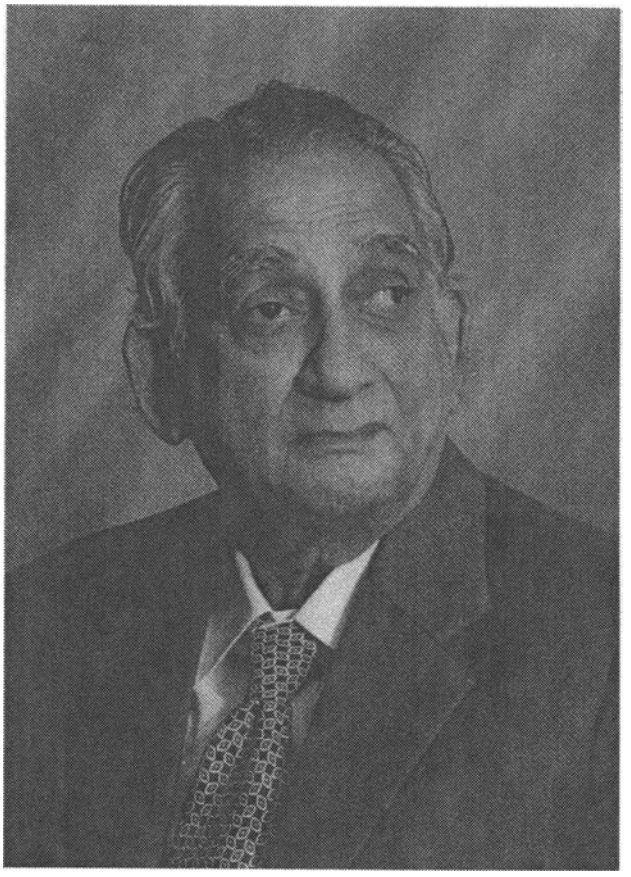

S. Panchapakesan

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Preface

Prof. S. Panchapakesan has made significant contributions to the area of ranking and selection. Besides ranking and selection, he has also published in many other areas of statistics including order statistics, reliability theory, stochastic inequalities, and inference.

In order to reflect his diverse interests and also to recognize his important contributions to different areas, we invited a number of authors to write articles for this volume. These authors form a representative group from coauthors, friends, colleagues and other close professional associates of S. Panchapakesan, in addition to being experts working in one or more of the above-mentioned areas. All the articles present here have been peer reviewed and carefully organized into 20 chapters. For the convenience of the readers, this volume has been divided into the following parts:

- INFERENCE
- RANKING AND SELECTION
- MULTIPLE COMPARISONS AND TESTS
- AGREEMENT ASSESSMENT ANALYSIS
- RELIABILITY
- BIOSTATISTICS

The above list has taken into account various types of inferential problems of interest. This volume is *not* a proceedings, although many of the authors were present at an International Conference held in honor of S. Panchapakesan during December 2002 in Chennai, Tamilnadu, India.

Our sincere thanks go to all the authors who have contributed to this volume. They all share our admiration and appreciation of S. Panchapakesan for all his contributions and sincere work during the past 35 years, and have given us their full cooperation and support in bringing this volume out. We are also indebted to the referees for helping us in the evaluation of the manuscripts and in improving the quality of this publication. In particular, we thank Professors Dipak Dey, Wen-Tao Huang and Nitis Mukhopadhyay for their assistance in the editorial process.

Special thanks are due to Mrs. Debbie Iscoe for the excellent typesetting of the entire volume. Finally, we thank Mr. Thomas Grasso (Editor, Birkhäuser, Boston) for the invitation and encouragement to undertake this project.

With great pleasure, we dedicate this volume to our beloved friend and colleague, S. Panchapakesan.

N. Balakrishnan
McMaster University, Hamilton, Canada

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University of Texas, San Antonio, U.S.A.

H. N. Nagaraja
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October 2004

S. Panchapakesan
Career and Accomplishments

Subramanian Panchapakesan was born on August 27, 1933, to Subramanian and Visalakshi, in Mylapore, Madras (currently known as Chennai). In 1938, his whole family moved to Pudukkottai in Tamilnadu where he completed the first thirteen years of his studies – first to eleventh standards of his school in an institution run by the Church of Swedish Mission, and then two years of Intermediate in Arts and Sciences at the Rajah's College. He then moved to Madras for further studies at Vivekananda College, obtaining a B.A. (Honours) in Mathematics from the University of Madras in 1954. This B.A. (Honours) degree was equivalent to the M.A. degree, but he had to wait for a year to get the M.A. degree in Mathematics because of some technical reasons.

During 1955–1960, he served as a Lecturer in Mathematics at Islamiah College in Vaniyambadi, Tamilnadu. He left this position in 1960 to join the Indian Statistical Institute (ISI), Calcutta, where he obtained a M.Stat. degree in 1962. For the next two years, he held a Research Assistantship in the Research and Training School of the ISI. During this period, he also spent six months in Hyderabad, Andhra Pradesh, as Officer-in-Charge of Evening Centre run by the ISI and the rest of the period as an instructor at the International Statistical Education Centre (ISEC). This training centre was run by the ISI under a United Nations program. In February 1965, he joined the technical staff in the Data Processing Unit of the Research and Training School of the ISI. After six months, he resigned to go to Purdue University, West Lafayette, Indiana, to do his graduate study in statistics. He received his Ph.D. in Mathematical Statistics in 1969 for his thesis entitled *Some Contributions to Multiple Decision (Selection and Ranking) Procedures* written under the guidance of Professor Shanti Swarup Gupta. With this, he started his illustrious career and made pioneering contributions to the area of Ranking and Selection Methodology and many other areas of Statistics.

Subsequent to his Ph.D., he took a one-year visiting Assistant Professorship in the Department of Statistics at Purdue University. In 1970, he joined the Department of Mathematics at Southern Illinois University, Carbondale, Illinois,

as an Assistant Professor. He was promoted to the rank of Associate Professor in 1974 and then to Full Professor in 1980. After a 28-year service there, he retired on June 1, 1998, and currently holds the title of Professor Emeritus in that department.

He had visiting appointments in the Department of Statistics at Purdue University during the fall term of 1975, and the spring terms of 1984 and 1986. He also went as a Visiting Expert to the Institute of Mathematics at Academia Sinica, Taipei, Taiwan, during the spring term of 1980.

He has provided valuable service to many research journals in various capacities. Included in this list are: Member of the International Editorial Board of *Communications in Statistics* during 1985–1994. Associate Editor of *Journal of Statistical Planning and Inference* during 1984–2000. Member of the Editorial Board of *American Journal of Mathematical and Management Sciences* since 1993, and Associate Editor of *Communications in Statistics* since 2001.

S. Panchapakesan, through his pioneering research in the area of ranking and selection over the last 35 years, has made a significant impact in this area. He has not only inspired and encouraged, but also mentored and helped numerous young researchers.

Now that he is retired and is free from teaching and administrative duties, we are confident that he will continue to make fine contributions to the field with renewed interest, enthusiasm and energy. In addition, he will also have more time to enjoy the Indian classical music, his lifelong interest.

Publications

Books

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