

Preface

As a token of appreciation and in celebration of the 60th birthday of Professor Terence P. Speed, this volume has been compiled from contributions offered by his colleagues and former students.

Terry's intellectual curiosity and enthusiasm, along with deep and very broad subject matter knowledge and expertise, have been highly influential to many individuals. His influence extends to the wider statistical community as well. Terry has a solid record of service to the statistical profession, including serving as reviewer or editor for numerous journals and also for the U. S. National Science Foundation and National Institutes of Health, and is a member (or Fellow) of several professional societies, including the ASA, ISI, WNAR, and IMS. Terry has also accepted officer responsibilities (for example, past President of WNAR), and indeed is serving as the current President of the IMS. In addition, he has received a number of professional accolades; for example, he has recently given the prestigious Wald lectures at the Joint Statistical Meetings (2001) and the Forum Lecture at the European Meeting of Statisticians (2002).

After completing the Ph. D., Terry became a Lecturer at the University of Sheffield. He was later Associate Professor, then Professor, at the University of Western Australia. He was Chief of the Division of Mathematics and Statistics at the CSIRO in Australia before coming to the University of California at Berkeley as a Professor in 1987. Since 1997, he has split his time, roughly evenly, between Berkeley and Melbourne, Australia, where he is Division Head of Bioinformatics at the Walter and Eliza Hall Institute of Medical Research.

His career thus far has encompassed a number of remarkably distinct areas, beginning with algebra, then probability, followed by statistics and its applications in a number of fields, particularly in genetics and, most recently, bioinformatics. This broad background has allowed him to find connections between apparently vastly different fields: for example, between algebraic group theory and genetic linkage analysis. Terry also maintains an active role in statistical education at all levels, promoting learning both through his own teaching and his book *Stat Labs* and papers on the subject.

To present a concrete picture of Terry's research activities, we considered including a list of his publications here. However, we have not done so for two practical reasons. First, space: his publications number in the hundreds; and second, timeliness: Terry is even now publishing at so rapid a pace that any such list would be immediately out of date. We refer interested readers to electronic databases such as Current Index to Statistics, MathSciNet, PubMed of the United States National Library of Medicine, and Current Contents, for example. However, to give an impression of the variety of Terry's work, we note that his papers have been published in such diverse journals as:

Mathematics, Probability, and Information Theory: Advances in Applied Probability, Annals of Applied Probability, Canadian Mathematical Bulletin, IEEE Transactions on Information Theory, Journal of Applied Probability, Journal of the Australian Mathematical Society, Journal of the Lon-

don Mathematical Society, Probability Theory and Related Fields, Proceedings of the Cambridge Philosophical Society, SIAM Journal on Applied Mathematics, Stochastic Processes and their Applications;

Statistics: American Statistician, Annals of Statistics, Applied Statistics, Australian Journal of Statistics, Biometrics, Indian Journal of Statistics, International Statistical Review, Journal of Computational and Graphical Statistics, Journal of Educational Statistics, Journal of the American Statistical Association, Journal of the Royal Statistical Society Scandinavian Journal of Statistics, Statistica Sinica, Statistical Science;

Genetics: American Journal of Human Genetics, Annals of Human Genetics, Bioinformatics, Cytogenetics and Cell Genetics, Genetic Epidemiology, Genetics, Genome Research, Genomics, Human Heredity, Journal of Molecular Evolution, Nature Reviews Genetics, Nucleic Acids Research, Theoretical and Applied Genetics;

Others: Canadian Journal of Fisheries and Aquatic Sciences, Electrophoresis, European Journal of Immunology, Infection and Immunity, Investigative Ophthalmology, Journal of Applied Bacteriology, Journal of Computational Biology, Journal of Immunological Methods, Journal of Solid State Chemistry, Molecular and Biochemical Parasitology, Molecular Vision, Neuron, Proceedings of the National Academy of Sciences USA, Sociological Methodology, Statistics for the Environment, Survey Methodology, Theoretical Population Biology.

The response to invitations to submit contributions was tremendous, and has resulted in this very diverse collection of papers. They address topics in many of the areas in which Terry has had an interest during some part of his highly varied career. He has had great impact in the development and progress of several of these fields, most recently in experimental design and statistical analysis of microarray studies of gene expression. This volume contains refereed papers, roughly organized by topic, on probability, algebraic experimental design, generalized linear models, statistical education, and assorted applications, including the US census, fire risk assessment, genetics and other biological applications. We all hope that every reader will find something of interest and will benefit from this access to the broad spectrum of scientific and mathematical/statistical ideas represented here.

Happy Birthday, Terry!