

Preface

Jayanta Kumar Ghosh is one of the most extraordinary professors in the field of Statistics. His research in numerous areas, especially asymptotics, has been groundbreaking, influential throughout the world, and widely recognized through awards and other honors. His leadership in Statistics as Director of the Indian Statistical Institute and President of the International Statistical Institute, among other eminent positions, has been likewise outstanding. In recognition of Jayanta's enormous impact, this volume is an effort to honor him by drawing together contributions to the main areas in which he has worked and continues to work. The papers naturally fall into five categories.

First, sequential estimation was Jayanta's starting point. Thus, beginning with that topic, there are two papers, one classical by Hall and Ding leading to a variant on p-values, and one Bayesian by Berger and Sun extending reference priors to stopping time problems.

Second, there are five papers in the general area of prior specification. Much of Jayanta's earlier work involved group families as does Sweeting's paper here for instance. There are also two papers dwelling on the link between fuzzy sets and priors, by Meeden and by Delampady and Angers. Equally daring is the work by Mukerjee with data dependent priors and the pleasing confluence of several prior selection criteria found by Ghosh, Santra and Kim. Jayanta himself studied a variety of prior selection criteria including probability matching priors and reference priors.

Third, between his work on parametric Bayes and nonparametrics, Jayanta took an interest in model selection. Accordingly, three papers on model selection come next. Bunea's work on consistency echoes Jayanta's work on consistency of the BIC. Chatterjee and Mukhopadhyay's work on data adaptive model averaging continues the direction they started under Jayanta's guidance. Chakrabarti and Samanta's work on the asymptotic optimality of predictive cross validation contrasts nicely with standard Bayes model selection, via the BIC for instance.

Fourth, there are five papers generally on Bayesian nonparametrics. Some are applied as in Malec and Mueller's work on semi-parametrics in small area estimation or Guo, Dey and Holsinger's work carefully using prior selection for modeling purposes. And some are more theoretical: Choi and Ramamoorthi provide a review, with some new results, on posterior consistency while James focuses on a class of priors and van der Vaart and van Zanten focus on the role of reproducing kernel Hilbert spaces in Bayesian nonparametrics with Gaussian process priors.

Finally, Jayanta has most recently turned his attention to high dimensional problems. On this topic, there are five papers from a variety of standpoints. For instance, it is possible to make unexpected use of the information in the large dimensions themselves as in Sen's work with Kendall's tau. Others focus on the parametric parts of a nonparametric model as in Ishwaran and Papana, or in Bhattacharya and Bhattacharya. A third tack in Clarke and Seo is the focus on selecting the dimensions for use in emerging model classes. Finally, the work of Bickel, Li and Bengtsson establishes a general convergence result for computing conditional distributions.

As can be seen, some papers fit comfortably into more than one section and some only fit into a section if it is interpreted broadly. Even so, we would like to