

PREFACE

In August, 2006, while Professor Xuming He, University of Illinois, and Professor Feifang Hu, University of Virginia, were visiting the Institute of Mathematical Sciences, NUS, we had a dinner together. Besides Xuming, Feifang and myself, in presence at the dinner were Professor Louis Chen, Director of the Institute of Mathematical Sciences, Professors Anthony Kuk and Kwok Pui Choi, the head and deputy head of the Department of Statistics & Applied Probability, NUS. The idea of a mini-conference in honour of Professor Zhidong Bai on his 65th birthday was conceived during the dinner. Louis suggested for me to take the lead to organise this conference. I felt obliged. Zhidong and I have been long time friends and colleagues. I first met Zhidong in 1986 when Zhidong together with Professors Xiru Chen and Lincheng Zhao visited the University of Wisconsin-Madison while I was still a PhD student there. After Zhidong joined the NUS, we became colleagues, co-authors and close friends. It is indeed my honour to play a leading role in the organizing of this event. A organizing committee was formed afterwards. It consisted of Feifang Hu, Jin-Ting Zhang, Ningzhong Shi and myself. Jin-Ting is a professor of the National University of Singapore and Ningzhong is a professor of the Northeast China Normal University. It was decided to have a proceedings of the mini-conference published. Xuming later suggested to publish a volume of Zhidong's selected papers. This led to the current book.

The book consists of two parts. The first part is about Zhidong's life and his contributions to Statistics and Probability. This part contains an interview with Zhidong conducted by Dr. Atanu Biswas, Indian Statistical Institute, and seven short articles on Zhidong's contributions. These articles are written by Zhidong's long term collaborators and coauthors who together give us a whole picture of Zhidong's extraordinary career. The second part is a collection of Zhidong's selected seminal papers.

Zhidong has a legendary life. He was adopted into a poor peasant family at birth. He spent his childhood during the Chinese resistance war against Japan. He had an incomplete elementary education under extremely backward conditions. Yet he managed to enter one of the most prestigious universities in China, the University of Science and Technology of China (USTC). After graduation from USTC, he worked as a truck driver's team leader and was completely detached from the academics for ten years during the Cultural Revolution of China. However, he successfully got admitted into the graduate program of USTC in 1978 when China restarted its tertiary education after ten years interruption, and became

one of the first 18 PhDs in China's history four year later. In 1984, he went to the United States. He soon had his academic power felt. He became elected as a fellow of the Third World Academy of Sciences in 1989, elected as a Fellow of the Institute of Mathematical Statistics in 1990. Zhidong has worked as researcher and professor at University of Pittsburgh, Temple University, Sun-Yat-Sen University at Taiwan, National University of Singapore and Northeast China Normal University. He has published three monographs and over 160 research papers. He has produced numerous graduate students. Zhidong's life and his career would inspire many young researchers and statisticians.

Zhidong's research interests are broad. He has made great contributions in various areas such as random matrix theory, Edgeworth expansion, M-estimation, model selection, adaptive design in clinical trials, applied probability in algorithms, small area estimation, time series, and so on. The selected papers are samples among many of Zhidong's important papers in these areas. These selected papers not only present Zhidong's research achievements but also an image of a great researcher. Zhidong is not a trendy statistician. He enjoys tackling hard problems. As long as those problems are of scientific interest, he does not care too much about whether papers can be produced from them for the purposes of "survival" such as tenure, promotion, etc. Such character is well demonstrated in his dealing with the circular law in the theory of large dimensional random matrix. It was an extremely difficult problem. He delved into it for thirteen years until his relentless effort eventually bore fruit. Zhidong has left his marks in Statistics, indelible ones.

This book provides an easy access to Zhidong's important works. It serves as a useful reference for the researchers who are working in the relevant areas.

Finally, I would like to thank the following persons for their contribution to the book: Biswas, A., Silverstein, J., Babu, G. J., Kundu, D., Zhao, L., Hu, F., Wu, Y. and Yao, J.

The permissions for the reprinting of the selected papers are granted by Institute of Mathematical Statistics, Statistica Sinica and Indian Statistical Institute. Their permissions are acknowledged with great appreciation.

The editing of this book is a joint effort by Feifang Hu, Jin-Ting Zhang and myself.

Zehua Chen
*(Chairman, Organizing Committee
for the Conference on Advances in Statistics
in Honor of Professor Zhidong Bai on His 65th Birthday)*

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