

Academic Seminar: An Unexpected Journey to the Converse of Bayes Theorem

The speaker is Professor NG Kai Wang of HKU, Head of Statistics and Actuarial Science. It is well known that the process of Bayesian inference inputs a prior distribution of the parameter and outputs a posterior distribution of parameter given data, all according to Bayes' Theorem. Thus a converse of Bayes' Theorem means that for any prescribed posterior distribution we can always find a prior distribution to produce it. In this seminar, Professor Ng will share with the audience a totally unexpected journey that led him to such a converse, based on very simple mathematics. Even more surprisingly, it all started with a problem of solving the key integral equation in an invited paper in the *Journal of American Statistical Association* in 1987 that was discussed by five prominent experts in the field, including two from Harvard University. This finding prompts Professor Ng to conjecture that Rev. Thomas Bayes had withheld his manuscript and wanted more time to re-write it. Please refer to the enclosed synopsis of the seminar for more details.

Commemorative Dinner with Sharing

During the commemoration dinner, there will be some sharing by Members. In particular, Professor GU Minggao of CUHK, Graduate Division Head in the Department of Statistics, will share with the audience an interesting application of statistics in a case study of Hong Kong's racetrack betting in regard to Market Efficiency and Investment Strategies, showing how investment strategies work in real situations using Hong Kong Jockey Club horse racing data, as detailed in the enclosed abstract. Professor LAM Kin of HKBU, Professor Emeritus, will share some of his experience of applying statistical methods in finance.

To promote statistical literacy on probability and statistics, a new-reprinted edition of the booklet "Kaleidoscope in Probability" (概率萬花筒) written by Professor SIU Man-keung and Professor LAM Kin was published recently and will be distributed during the dinner.