

JPSM Distinguished Lecture Series

Friday, November 18 at 1:00 PM
2205 Lefrak Hall, University of Maryland, College Park



Alastair Scott, Professor Department of Statistics
University of Auckland, New Zealand

Alastair Scott has an MSc in Mathematics from Auckland and a PhD in Statistics from the University of Chicago. After graduation from Chicago in 1965, he lectured at the London School of Economics for a number of years before joining the University of Auckland in 1972. He has been there ever since, apart from a number of visiting appointments at universities in North America and the U.K.

Formal Discussants for Professor Scott's Talk

Barry Graubard from NCI and **Graham Kalton** from Westat

The Design and Analysis of Retrospective Health Surveys

1:00 PM – 2:40 PM

by

Alastair Scott

In many health surveys, information on some characteristics is available for all units in the population. An example is the Auckland Collaborative Birthweight Study which was set up to investigate risk factors for low birthweight. Birthweights and many other characteristics are routinely collected for all mothers and babies in the target population. Other characteristics can only be measured for a sample. We want to build a model for birthweight as a function of the other characteristics. The task is to design an efficient sampling scheme and an efficient method for fitting the model, using all the information available.

In recent years, there has been a large amount of rather abstruse work on efficient semiparametric estimation for this situation. I will show that standard survey techniques for using auxiliary information lead to methods that are almost fully efficient as well as being relatively robust and simple to implement. I also look at some aspects of the design problem.



J.N.K. Rao, Professor Emeritus
School of Mathematics and Statistics, Ottawa, Canada

Professor Rao has been at the forefront of research in sampling theory and methods since 1960. He has made fundamental contributions to the so-called classical theory of sampling, to the foundations of sampling during the debates of the 1960s and 70s, to a variety of aspects of variance estimation, to the analysis of complex survey data and to small area estimation. Over this forty-year period his work has been, and continues to be, at the cutting edge of research.

Interplay Between Sample Survey Theory and Practice: An Appraisal

3:00 PM – 4:40 PM

by

J.N.K. Rao

A large part of sample survey theory has been directly motivated by practical problems encountered in the design and analysis of sample surveys. On the other hand, sample survey theory has influenced practice, often leading to significant improvements. This paper will examine this interplay over the past 60 years or so. Examples where new theory is needed or where theory exists but is not used will also be presented.

Formal Discussants for Professor Rao's Talk

Mike Brick from Westat and **Phil Kott** from NASS

Please join us for a reception afterwards.

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the University of Maryland Statistics Consortium

