

Symposium on Dependent Data Structures  
Carleton University, May 21-23, 2008



The goal of the symposium, held at Carleton University during May 21-23, 2008, was to provide a platform to discuss recent developments for modeling dependent data structures. This three-day workshop attracted over 60 participants from Canada and abroad, and was held in a very friendly atmosphere. The symposium began with opening remarks by J.N.K. Rao (Carleton) in which he gave a brief overview of dependent data analysis and its applications in various areas of survey sampling and clinical trials.

The scientific program was both diverse and intense, and consisted of eighteen talks including three keynote speeches, six invited and nine contributed talks. Most of the talks focused on both theoretical and practical aspects of modeling and statistical analyses of dependent data which include survey data, longitudinal and clustered data, and genetic data. Along with various types of modeling techniques for correlated data, linear mixed models and generalized linear mixed models were extensively discussed in many of the talks.

David Brillinger (UC, Berkeley) gave a keynote speech on the first day of the symposium in which he discussed the analysis of data from a biological experiment on the muscle spindle. The experiment involved two input and two output neurons, and the analysis combined the results of a time domain approach with those of a frequency domain approach to obtain new information about the behavior of the muscle.

Charles McCulloch (UC, San Francisco) gave his keynote speech on the second day and discussed prediction of random effects in both linear and generalized linear mixed models. He studied the consequences of an incorrect specification of the distribution of random effects and investigated the impact of misspecification with a focus on prediction of the realized values of the random effects.

On the third day in his keynote speech, Richard Cook (waterloo) discussed survival data in the case of dependent censoring with recurrent events. He described a bivariate mixed Poisson model which was used to investigate the consequences of an event-dependent censoring scheme arising in many clinical

trials in which subjects are withdrawn from a study when they experience a specified number of the more severe events.

With many other interesting talks, there were also stimulating discussions by the invited speakers Subhash Lele (Alberta) on data cloning for simplified likelihood inference in mixed models, J.N.K. Rao (Carleton) on bootstrap methods for analyzing complex survey data, and Brajendra Sutradhar (Memorial) on generalized quasi likelihood inference for longitudinal data.

The symposium, funded by the Fields Institute, Carleton University, and the School of Mathematics and Statistics at Carleton University, was organized by Patrick Farrell, Shirley Mills, Chul Park, and Sanjoy Sinha (Carleton).

*By Sanjoy Sinha (Carleton)*