

**Submittee:** Andy Leung

**Date Submitted:** 2016-03-24 12:27

**Title:** 2016 (Winter) Joint SFU-UBC Student Statistics Seminar

**Event Type:** Conference-Workshop

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**Location:**

Room 7000 in the Harbour Center

555 West Hastings Street, Vancouver, BC V6B 4N4

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**Dates:**

Saturday, March 19th 2016

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**Topic:**

Active areas of research in Statistics in the UBC department of Statistics and the SFU department of Statistics and Actuarial Science

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**Organizers:**

Leung, Andy, Department of Statistics, University of British Columbia

Chang, Bo, Department of Statistics, University of British Columbia

Hao, Nelson, Department of Statistics, University of British Columbia

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**Speakers:**

Zhou, Zhiyang, Department of Statistics and Actuarial Science, Simon Fraser University

Title: A generalized general minimum lower order confounding criterion for non-regular designs.

Abstract: We extend the work of Zhang et al. [Statistica Sinica 18, 1689-1705] for nonregular designs and propose two new concepts, i.e., the generalized aliasing effect-number pattern (G2-AENP) and generalized general minimum lower order confounding (G2-GMC). It proves that (i) isomorphic designs have the same G2-AENP and (ii) the generalized minimum aberration (GMA) and minimum moment aberration (MMA) can both be treated as ones that optimize functions over the G2-AENP. That is, the G2-GMC criterion is more sensitive in the recognition of non-isomorphic designs.

Luo, Hao, Department of Statistics, University of British Columbia

Title: The benefit of the GEI assumption for analyzing case-control data.

Abstract: In this paper, we have considered estimation of parameters arising from a logistic regression model for case-control data, under the gene-environment independence (GEI) assumption. We approach the problem by treating it as a constrained maximum likelihood estimation problem with a partially identified model, which leads to a relatively simple numerical algorithm. We

find that, except for the special case where both genetic and environmental factors are binary, parameters can be estimated more efficiently under the GEI assumption.

Safari, Abdollah, Department of Statistics and Actuarial Science, Simon Fraser University

Title: How does display advertising work?

Abstract: In this talk I'll talk about Display Advertisement which is the most important way to make money for a company like Google! I'll explain the concept and address the main questions in this context. Then, we will see the most challenging part of display advertisement and its current solutions. At the end, I'll talk about our new solution which might resolve some of the current solutions' issues (mainly time cost related difficulty).

Yu, Tingting, Department of Statistics, University of British Columbia

Title: A joint model for mixed and censored longitudinal data and survival data, with application to HIV vaccine studies.

Abstract: In HIV vaccine studies, a major research interest is to identify potential immune response biomarkers for HIV infection, or if and how the longitudinal immune response measurements may be associated with risks of HIV infection. Joint modelling longitudinal and survival data is thus very useful. Joint models for HIV vaccine data are complicated by the following issues: (i) the longitudinal data may be of mixed types, such as binary and continuous data, and different types of data may be associated; (ii) some longitudinal data may be left censored due to lower limit of quantifications; and (iii) the longitudinal data may be measured with errors and may have missing values. Moreover, the computation associated with likelihood inference can be highly demanding. In this project, we propose a joint model and a computationally efficient method to address the foregoing issues. In particular, our proposed method for censored longitudinal data does not make unverifiable distributional assumptions for censored values, which is different from common used methods in the literature. A data analysis and a comprehensive simulation study are also presented.

White, Rick, Department of Statistics, University of British Columbia

Title: The evolution of a statistical consultant and his tool-kit.

Abstract: Applied statistics has evolved rapidly over the past 25 years mainly due to improvements in the analytical tools available to statisticians. This non-academic talk will focus on how my role as a statistical consultant, and the tools I use, have changed over the years. What was difficult 25 years ago is trivial today. I will also discuss the various insights I've gained over time and the effect they've had on my style of consulting.

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**Links:**

<http://www.stat.ubc.ca/~bchang/misc/JointSeminar2016.html>

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