



International Chinese Statistical Association

泛華統計協會

**Canada Chapter**



ICSA Canada Chapter 2022 Symposium  
Statistics: From Data to Knowledge

## **Program Book**

July 8-10, 2022  
Banff Center, Banff, AB, Canada

# Sponsors



**Canadian Statistical Sciences Institute**  
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## **Welcome to the Fifth ICSA-Canada Chapter 2022 Symposium**

Welcome to the fifth International Chinese Statistical Association (ICSA) Canada Chapter 2022 Symposium in Banff! The theme of the conference is “Statistics: From Data to Knowledge” and it will feature a rich scientific program focusing on broad areas and the latest developments and innovations in statistics and data sciences and their applications in statistics. It provides a great opportunity and a venue to bring together about 200 statisticians and researchers from Canada and other countries to present and discuss research and practices in-person after more than two years of global COVID-19 lock-down.

The ICSA Canada Chapter was found in 2012. The first biennial symposium was held in Toronto in 2013. The fourth symposium was held in Kingston in 2019. The fifth symposium was scheduled in 2021 and it was postponed to this year because of the pandemic. This year also marks the 10 year anniversary of the Chapter. We will get together to celebrate the 10<sup>th</sup> anniversary and to appreciate all the enthusiastic supporters of the Chapter led by the founding Chair Grace Yi to create this Chapter 10 years ago in Canada. The statistics community in Canada has been growing rapidly, and the Chapter and its biennial symposium soon became one of the best venues for statisticians in Canada and around the world after their inception. The organizing committee of the 2022 symposium has been working hard over the last two years and trying best to make the symposium this year a successful one despite many uncertainties due to pandemic restrictions. More detailed information about the symposium, including abstracts of all invited talks, can be found at <https://icsa-canada-chapter.org/symposium2022/>.

The symposium venue is Banff Centre for Arts and Creativity, located in Banff, a beautiful resort town within Banff National Park in the province of Alberta. The peaks of Mt. Rundle and Mt. Cascade, part of the Rocky Mountains, dominate its skyline. It is approximately 1.5 hours west of Calgary and can be reached by car or by transit from the Calgary International Airport. Please visit <https://www.banffcentre.ca/> for details about Banff Centre, <https://banff.ca/> for details about the city of Banff, and <https://www.pc.gc.ca/en/pn-np/ab/banff> for details about Banff National Park.

The symposium this year is sponsored by the Canadian Statistical Sciences Institute (CANSSI) and The Pacific Institute for the Mathematical Sciences (PIMS). There are also student volunteers from the University of Alberta. We sincerely thank the sponsors and volunteers for their strong supports!

Welcome to Banff and the beautiful Canadian Rocky Mountains!

## **ICSA – Canada Chapter Executive Committee**

- Joan Hu, Chair-Elect, Simon Fraser University
- Yingwei Peng, Chair, Queen's University
- Liqun Wang, Past-Chair, University of Manitoba
- Leilei Zeng, Secretary/Treasurer, University of Waterloo

## **ICSA – Canada Chapter Regional Representatives**

- Cindy Feng, Canada East: Cindy Feng, Dalhousie University
- Juxin Liu, Canada West, University of Saskatchewan
- Sunny Wang, Canada Central, Wilfrid Laurier University

## **Symposium Organizing Committee**

- Dehan Kong, Chair of the Scientific Program, University of Toronto
- Linglong Kong, Chair of the Local Committee, University of Alberta
- Joan Hu, Chapter Chair-Elect, Simon Fraser University
- Yingwei Peng, Chapter Chair, Queen's University
- Liqun Wang, Chapter Past Chair, University of Manitoba
- Leilei Zeng, Chapter Secretary/Treasurer, University of Waterloo

## **Program Committee**

- Dehan Kong, University of Toronto (Chair of Program Committee)
- Hua Shen, University of Calgary
- Liangliang Wang, Simon Fraser University
- Yi Yang, McGill University
- Yeying Zhu, University of Waterloo

## **Local Arrangements Committee**

- Linglong Kong, University of Alberta (Chair of Local Committee)
- Bei Jiang, University of Alberta

## Symposium Website

<https://icsa-canada-chapter.org/symposium2022/>

## Symposium Venue

Symposium activities take place at Max Bell (MB) Building, Banff Centre, Alberta, Canada.

## Travel To Symposium Venue

There are several shuttle services from Calgary to Banff:

- Banff Airporter.
- Brewster Express.
- Vivo Green.

The BIRS website also has information about the travel to Banff Centre at

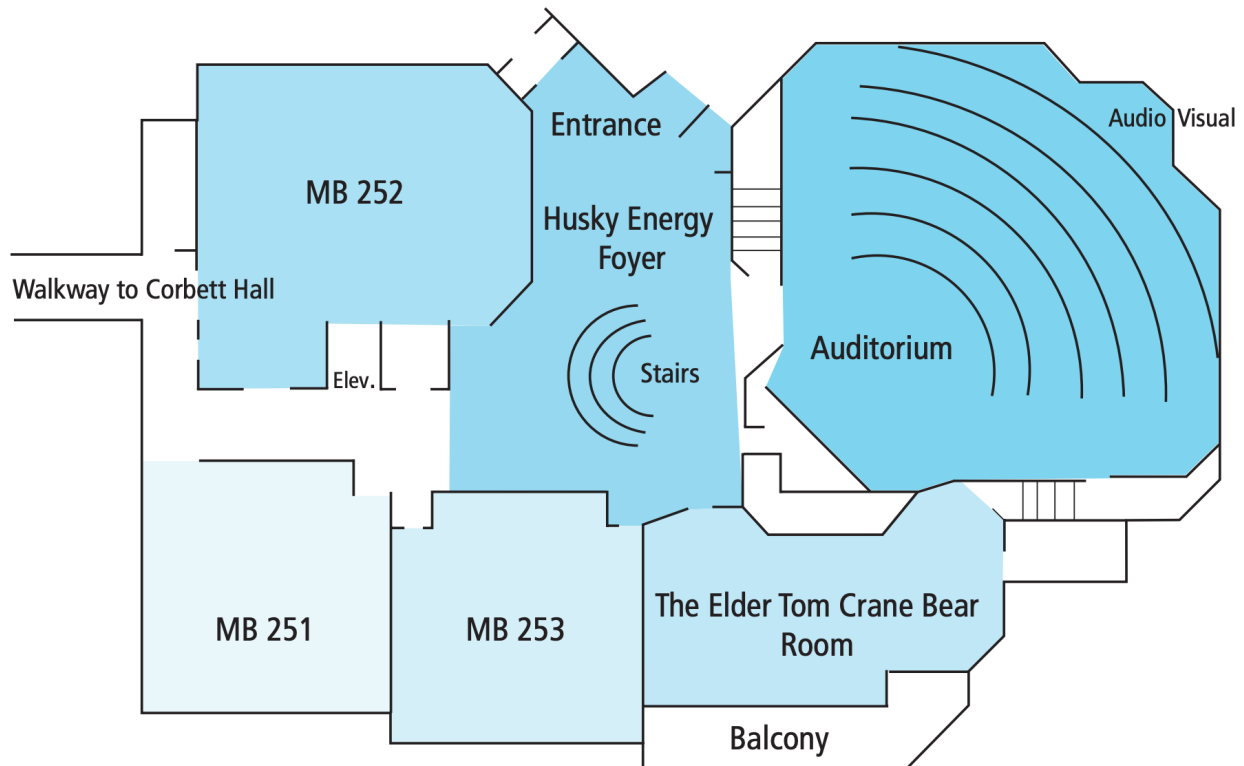
<https://www.birs.ca/participants/getting-to-birs/>

## Rooms and Schedules

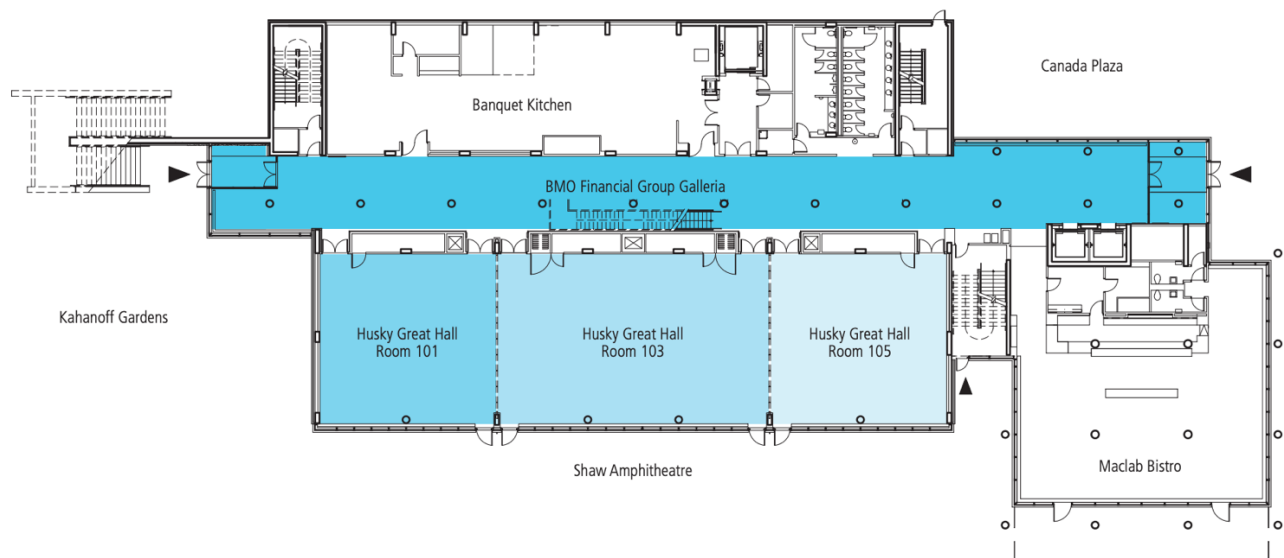
- Registration: MB Central Foyer
  - July 7: 5:00pm-9pm,
  - July 8: 8:00am-9pm,
  - July 9: 8:00am-5pm,
  - July 10: 8:00am-12noon.
- Breakfast: Vistas Dining Room, July 8, 9, and 10, 7:00 am – 9:30 am
- Lunch: Vistas Dining Room, July 8, 9, and 10, 11:30 am – 1:30 pm
- Reception: MB Central Foyer, July 8, 6:00 pm – 9:00 pm
- Banquet: Kinnear Centre 103-105, July 9, 7:00 pm – 10:00 pm
- Coffee breaks: MB Central Foyer, July 8, 9, and 10, 9:30 am – 9:50 am & 3:00 pm – 3:20 pm
- Plenary and parallel sessions:
  - MB Auditorium
  - MB 251
  - MB 252
  - MB 253
  - Elder Tom Crane Bear Room

# MB Building Floor Plan

## Max Bell Building Main Floor



## Kinnear Centre Floor Plan



# Getting to Banff Centre

## Getting To Banff Centre

### Directions

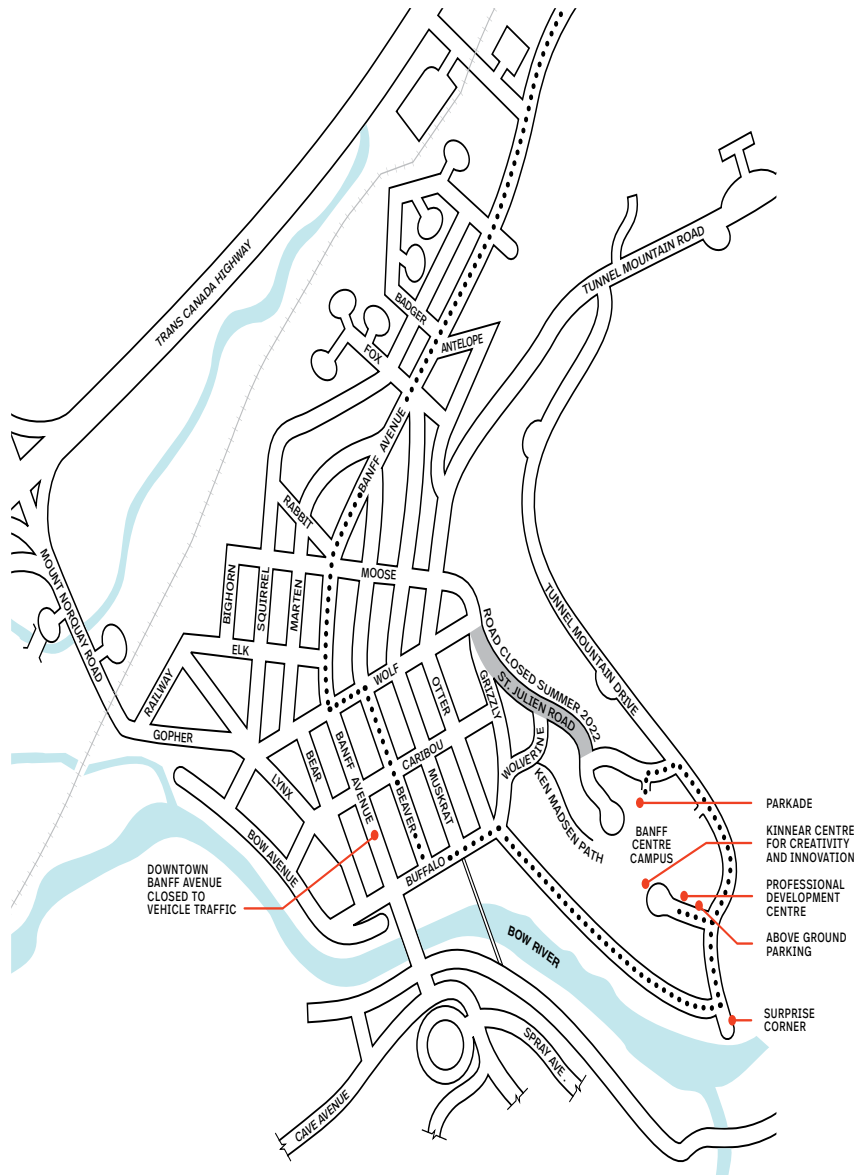
- Take the Banff Avenue Exit from the Trans Canada Hwy 1
  - If you are coming from Calgary turn left at the stop sign
  - If you are coming from the West (British Columbia or Lake Louise) exit to the right and continue right.
- Stay on this road (Banff Avenue) until you reach the 3rd set of lights (Wolf Street intersection) and turn left onto Wolf Street.
- At the stop sign turn right onto Beaver Street.
- Turn left onto Buffalo Street. Follow this road uphill.

### To Professional Development Centre and Above Ground Parking

- Take the first left turn past the viewpoint of the Banff Springs Hotel (Surprise Corner).
- 24-hour above ground parking will be on the right-hand side.
- The Professional Development Centre (Check-in for accommodation) will be on the right-hand side after the parking lot.
- Kinnear Centre is the 3-story gray building at the end of the road.

### To Parkade

- Take the third left turn past the viewpoint of the Banff Springs Hotel (Surprise Corner).
- Take the next left. As you enter campus, you will find two levels of underground parking to your right.



**BANFF**  
CENTRE FOR ARTS AND CREATIVITY

# Banff Campus Map



**BANFF**  
CENTRE FOR ARTS AND CREATIVITY





## General Schedule

Time	Function	Location
<b>Thursday, July 7</b>		
5:00 pm – 9:00 pm	Registration	MB Central Foyer
<b>Friday, July 8</b>		
7:00 am – 8:15 am	Breakfast	Vistas Dining Room
8:00 am – 9:00 pm	Registration	MB Central Foyer
8:15 am – 8:30 am	Opening Remarks	MB Auditorium
8:30 am – 9:30 am	Keynote Speech I	MB Auditorium
9:30 am – 9:50 am	Coffee Break	MB Central Foyer
9:50 am – 11:30 am	Parallel Sessions 2-5	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
11:30 am – 1:20 pm	Lunch	Vistas Dining Room
1:20 pm – 3:00 pm	Parallel Sessions 6-10	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
3:00 pm – 3:20 pm	Coffee Break	MB Central Foyer
3:20 pm – 5:00 pm	Parallel Sessions 11-15	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
5:00 pm – 9:00 pm	Poster Session	MB Central Foyer
6:00 pm – 9:00 pm	Reception	MB Central Foyer
<b>Saturday, July 9</b>		
7:00 am – 8:30 am	Breakfast	Vistas Dining Room
8:00 am – 5:00 pm	Registration	MB Central Foyer
8:30 am – 9:30 am	Keynote Speech II	MB Auditorium
9:30 am – 9:50 am	Coffee Break	MB Central Foyer
9:50 am – 11:30 am	Parallel Sessions 17-21	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
11:30 am – 1:20 pm	Lunch	Vistas Dining Room
1:20 pm – 3:00 pm	Parallel Sessions 22-26	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
3:00 pm – 3:20 pm	Coffee Break	MB Central Foyer
3:20 pm – 5:00 pm	Parallel Sessions 27-31	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
5:15 pm – 6:45 pm	AGM	Elder Tom Crane Bear
7:00 pm – 10:00 pm	Banquet	Kinnear Centre 103-105
<b>Sunday, July 10</b>		
7:00 am – 8:15 am	Breakfast	Vistas Dining Room
8:00 am – 12 noon	Registration	MB Central Foyer
8:15 am – 9:15 am	Keynote Speech III	MB Auditorium
9:30 am – 9:50 am	Coffee Break	MB Central Foyer
9:50 am – 11:30 am	Parallel Sessions 33-37	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
11:30 am – 1:20 pm	Lunch	Vistas Dining Room
1:20 pm – 3:00 pm	Parallel Sessions 38-41	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear
3:00 pm – 3:20 pm	Coffee Break	MB Central Foyer
3:20 pm – 5:00 pm	Parallel Sessions 42-46	MB (Auditorium, 251, 252, 253), Elder Tom Crane Bear

## Keynote Speech I



**Heping Zhang** is Susan Dwight Bliss Professor of Biostatistics, Professor of Child Study, and Professor of Statistics and Data Science at Yale University. He has published over 360 research articles and monographs in theory, methodology, and applications of statistics. He is particularly interested in biomedical research including epidemiology, genetics, child and women health, mental health, and substance use. He directs the Collaborative Center for Statistics in Science that coordinates major national research networks to understand the etiology of pregnancy outcomes and to evaluate treatment effectiveness for infertility. He is a fellow of the American Statistical Association and a fellow of the Institute

of Mathematical Statistics. He was named the 2008 Myrto Lefokopoulou distinguished lecturer by Harvard School of Public Health and a 2011 Medallion Award and Lecture and the 2022 Neyman Award and Lecture by the Institute of Mathematical Statistics. Dr. Zhang was the founding Editor-in-Chief of Statistics and Its Interface and is the past coordinate Editor of the Journal of the American Statistical Association.

**Location and Time:** MB Auditorium, Time: 8:30 AM – 9:30 AM, July 8<sup>th</sup>

**Organizer:** Yingwei Peng, Queen's University

**Chair:** Dehan Kong, University of Toronto

**Title:** Modeling Pregnancy Outcomes through Sequentially Nested Regression Models

**Abstract:** The polycystic ovary syndrome (PCOS) is a most common cause of infertility among women of reproductive age. Unfortunately, the etiology of PCOS is poorly understood. Large scale clinical trials for Pregnancy in Polycystic Ovary Syndrome (PPCOS) were conducted to evaluate the effectiveness of treatments. Ovulation, pregnancy, and live birth are three sequentially nested binary outcomes, typically analyzed separately. However, the separate models may lose power in detecting the treatment effects and influential variables for live birth, due to decreased sample sizes and unbalanced event counts. It has been a long-held hypothesis among the clinicians that some of the important variables for early pregnancy outcomes may continue their influence on live birth. To consider this possibility, we develop an  $\ell_0$ -norm based regularization method in favor of variables that have been identified from an earlier stage. Our approach explicitly bridges the connections across nested outcomes through computationally easy algorithms and enjoys theoretical guarantee of estimation and variable selection. By analyzing the PPCOS data, we successfully uncover the hidden influence of risk factors on live birth, which confirm clinical experience. Moreover, we provide novel infertility treatment recommendations (e.g., letrozole vs clomiphene citrate) for women with PCOS to improve their chances of live birth.

## Keynote Speech II



**Jianqing Fan** is a statistician, financial econometrician, and data scientist. He is Frederick L. Moore'18 Professor of Finance, Professor of Statistics, and Professor of Operations Research and Financial Engineering at the Princeton University where he chaired the department from 2012 to 2015. He is the winner of The 2000 COPSS Presidents' Award, Morningside Gold Medal for Applied Mathematics (2007), Guggenheim Fellow (2009), Pao-Lu Hsu Prize (2013) and Guy Medal in Silver (2014).

**Location and Time:** MB Auditorium, Time: 8:30 AM – 9:30 AM, July 9<sup>th</sup>

**Organizer:** Yingwei Peng, Queen's University

**Chair:** Linglong Kong, University of Alberta

**Title:** The Efficacy of Pessimism in Asynchronous Q-Learning

**Abstract:** This paper is concerned with the asynchronous form of Q-learning, which applies a stochastic approximation scheme to Markovian data samples. Motivated by the recent advances in offline reinforcement learning, we develop an algorithmic framework that incorporates the principle of pessimism into asynchronous Q-learning, which penalizes infrequently-visited state-action pairs based on suitable lower confidence bounds (LCBs). This framework leads to, among other things, improved sample efficiency and enhanced adaptivity in the presence of near-expert data. Our approach permits the observed data in some important scenarios to cover only partial state-action space, which is in stark contrast to prior theory that requires uniform coverage of all state-action pairs. When coupled with the idea of variance reduction, asynchronous Q-learning with LCB penalization achieves near-optimal sample complexity, provided that the target accuracy level is small enough. In comparison, prior works were suboptimal in terms of the dependency on the effective horizon even when i.i.d. sampling is permitted. Our results deliver the first theoretical support for the use of pessimism principle in the presence of Markovian non-i.i.d. data. (Joint with Yuling Yan, Gen Li, and Yuxin Chen)

## Keynote Speech III



**Xiaotong T. Shen** is the John Black Johnston Distinguished Professor in the School of Statistics, Data Science Program and Data Mining Consortium at the University of Minnesota. He is a fellow of AAAS, ASA, and IMS, and an Elected Member of ISI. He received the Best Paper Award (with Pan and Xie) of IBS in 2012, and was recognized in the list of “20 Data Science Professors to Know” by [OnlineEngineeringPrograms.com](http://OnlineEngineeringPrograms.com).

His areas of interest include machine learning and data science, high-dimensional inference, nonparametric and semiparametric inference, causal graphical models, personalization, recommender systems, natural language processing and text mining, and nonconvex minimization. His current research effort is devoted to the further development of causal and constrained inference, structured learning, inference for black-box learners, and scalable analysis. The targeted application areas are biomedical sciences, artificial intelligence, and engineering.

**Location and Time:** MB Auditorium, Time: 8:15 AM – 9:15 AM, July 10<sup>th</sup>

**Organizer:** Yingwei Peng, Queen’s University

**Chair:** Yingwei Peng, Queen’s University

**Title:** Data Perturbation

**Abstract:** Lessons learned from the COVID-19 pandemic: a statistician’s reflection  
**Abstract:** Data perturbation is a technique for generating synthetic data by adding “noise” to original data, which has a wide range of applications, primarily in data security. Yet, it has not received much attention within data science. In this presentation, I will describe a fundamental principle of data perturbation that preserves the distributional information, thus ascertaining the validity of the downstream analysis and a machine learning task while protecting data privacy. Applying this principle, we derive a scheme to allow a user to perturb data nonlinearly while meeting the requirements of differential privacy and statistical analysis. It yields credible statistical analysis and high predictive accuracy of a machine learning task. Finally, I will highlight multiple facets of data perturbation through examples. This work is joint with B Xuan and R Shen. Multiple facets of data perturbation through examples.

## Schedule for July 8, 9, 10

8:15am-8:30am, Opening Remarks, MB Auditorium

### Plenary Talk I

8:30am - 9:30am, Friday, July 8th

Session 1: *Keynote Speech 1*

Organizer: Yingwei Peng, Queen's University

Chair: Dehan Kong, University of Toronto

Room: MB Auditorium, Time: 8:30 AM – 9:30 AM

(1) Heping Zhang, Yale University

Title: *Modeling Pregnancy Outcomes through Sequentially Nested Regression Models*

Coffee Break, MB Central Foyer

### Parallel Sessions B

9:50am - 11:30pm, Friday, July 8th

Session 2: *Recent Advances in Statistical Learning*

Organizer: Dehan Kong, University of Toronto

Chair: Xinyi Zhang, University of Toronto

Room: MB Auditorium, Time: 9:50 AM – 11:30 AM

(1) Weibin Mo, Purdue University

Title: *Learning Optimal Distributionally Robust Individualized Treatment Rules*

(2) Ji Zhu, University of Michigan

Title: *Population-Level Balance in Signed Networks*

(3) Yingying Fan, University of Southern California

Title: *Asymptotic Properties of High-Dimensional Random Forests*

(4) Jinchi Lv, University of Southern California

Title: *High-Dimensional Knockoffs Inference for Time Series Data*

Session 3: *Recent Development in Statistical Computing and Methodology*

Organizer and Chair: Yi Yang, McGill University

Room: MB252, Time: 9:50 AM – 11:30 AM

(1) Kaiqiong Zhao, University of Alberta

Title: *A Sparse High-Dimensional Generalized Varying Coefficient Model for Identifying Genetic Variants Associated with Regional Methylation Levels*

(2) Liangyuan Hu, Rutgers University

Title: *A Flexible Approach for Causal Inference with Multiple Treatments and Clustered Survival Outcomes*

- (3) Ying Zhou, University of Toronto  
Title: *The Promises of Parallel Outcomes*
- (4) Shu Yang, North Carolina State University  
Title: *Generalizable Survival Analysis of Randomized Clinical Trials with Observational Studies*

**Session 4: *Statistics and Economics in Data Science***

Organizer: Linglong Kong, University of Alberta

Chair: Yafei Wang, University of Alberta

**Room: Elder Tom Crane Bear, Time: 9:50 AM – 11:30 AM**

- (1) Matias Salibian Barrera, The University of British Columbia  
Title: *Functional Principal Components for Sparse Longitudinal Data*
- (2) Michal Pesta, Charles University  
Title: *Infinitely Stochastic Micro Forecasting*
- (3) Ivan Mizera, University of Alberta  
Title: *Functional Profile Techniques for Claims Reserving*
- (4) Matus Maciak, Charles University  
Title: *Online Regime Switching in a Nonlinear Expectile Model*

**Session 5: *New Statistical Methods for Modeling Complex Data***

Organizer: Xuewen Lu, University of Calgary

Chair: Liqun Wang, University of Manitoba

**Room: MB253, Time: 9:50 AM – 11:30 AM**

- (1) Xiaoke Zhang, George Washington University  
Title: *Proximal Learning for Individualized Treatment Regimes under Unmeasured Confounding*
- (2) Thierry Chekouo, University of Calgary  
Title: *A Bayesian Group Selection with Compositional Responses for Analysis of Radiologic Tumor Proportions and their Genomic Determinants*
- (3) Fatemeh Mahmoudi, University of Calgary  
Title: *Variable Selection for Semi-Competing Risks Data with Broken Adaptive Ridge Regression*
- (4) Junhao Zhu, University of Toronto  
Title: *Laplacian Optimal Transport Based Reconstruction of Spatial Gene Expression*

**Lunch, 11:30 AM - 1:20 PM, Vistas Dining Room**

**Parallel Sessions C**  
**1:20pm - 3:00pm, Friday, July 8th**

**Session 6: *Functional and Complex Data Analysis***

Organizer and Chair: Zhenhua Lin, National University of Singapore

**Room: MB Auditorium, Time: 1:20 PM – 3:00 PM**

- (1) Zhenhua Lin, National University of Singapore  
Title: *High-Dimensional MANOVA via Bootstrapping and Its Application to Functional Data*
- (2) Shu Jiang, Washington University  
Title: *Predicting Long-Term Breast Cancer Risk with Mammogram Imaging Data*
- (3) Thorsten Koch, ZIB / TU-Berlin  
Title: *Dealing with Superhuman Complexity in Data Errors*
- (4) Ying Chen, National University of Singapore  
Title: *Policy Effectiveness on the Global COVID-19 Pandemic and Unemployment Outcomes: A Large Mixed Frequency Spatial Approach*

**Session 7: *Statistical Learning for Complex Data Structures***

Organizer and Chair: Yi Yang, McGill University

**Room: MB252, Time: 1:20 PM – 3:00 PM**

- (1) Teng Zhang, University of Central Florida  
Title: *Alternating Minimization Algorithm for Clustering Mixture Multilayer Network*
- (2) Ning Hao, University of Arizona  
Title: *Quadratic Discriminant Analysis by Projection*
- (3) Wen Zhou, Colorado State University  
Title: *Integrative Group Factor Model for Variable Clustering on Temporally Dependent Data: Optimality and Algorithm*
- (4) Mingqi Wu, McGill University  
Title: *How Rotational Invariance of Common Kernels Prevents Generalization in High Dimensions*

**Session 8: *Recent Advances in Causal Inference and Missing Data Analysis***

Organizer and Chair: Shu Yang, North Carolina State University

**Room: MB253, Time: 1:20 PM – 3:00 PM**

- (1) Jiaying Gu, University of Toronto  
Title: *Partial Identification in Nonseparable Binary Response Models with Endogenous Regressors*
- (2) Yichi Zhang, North Carolina State University  
Title: *A Generalized R-Learner for the Heterogeneous Causal Effect Estimation with Continuous Treatments*
- (3) Yan Shuo Tan, University of California, Berkeley  
Title: *Stable Discovery of Interpretable Subgroups*

**Session 9: *Statistical Methods for Integrative Data Analysis***

Organizer and Chair: Peter Song, University of Michigan

**Room: Elder Tom Crane Bear, Time: 1:20 PM – 3:00 PM**

- (1) Emily Hector, North Carolina State University  
Title: *Functional Regression with Wearable Device Data: a New Lens Through Data Partitioning*
- (2) Lan Luo, The University of Iowa  
Title: *Multivariate Online Regression Analysis with Heterogeneous Streaming Data*
- (3) Peisong Han, University of Michigan  
Title: *Integrating Summary Information from many External Studies with Heterogeneous Populations*
- (4) Xiaotian Dai, University of Calgary  
Title: *Statistical Framework to Support the Epidemiological Interpretation of SARS-CoV-2 Concentration in Municipal Wastewater*

**Session 10: *Statistical Methods for High Dimensional Data***

Organizer and Chair: Xuekui Zhang, University of Victoria

**Room: MB251, Time: 1:20 PM – 3:00 PM**

- (1) Li Xing, University of Saskatchewan  
Title: *EPPS: a Novel Ensemble Test to Improve the Power of Genomic Studies*
- (2) Depeng Jiang, University of Manitoba  
Title: *Latent Transition Analysis for Multilevel and Multivariate Longitudinal Outcomes*
- (3) Liangliang Wang, Simon Fraser University  
Title: *Generalized Bayesian Multidimensional Scaling*

**Coffee Break, MB Central Foyer**

**Parallel Sessions D**  
**3:20pm - 5:00pm, Friday, July 8th**

**Session 11: *Statistics in Biosciences (Sponsored Session)***

Organizer and Chair: Joan Hu, Simon Fraser University

**Room: MB Auditorium, Time: 3:20 PM – 5:00 PM**

- (1) Hongzhe Li, University of Pennsylvania  
Title: *Estimation and Inference with Proxy Data and Its Genetic Applications*
- (2) Yi Xiong, Fred Hutchinson Cancer Research Center  
Title: *Statistical Analysis of Recurrent Events from Administrative Databases*
- (3) Kwun Chuen Gary Chan, University of Washington  
Title: *The National Alzheimer's Coordinating Center Data Set and some Associated Statistical Problems*



- (4) Zhezhen Jin, Columbia University  
Title: *Analysis of Large Data with Subsampling*

**Session 12: *Computations and Theories for Statistical Learning***

Organizer: Dehan Kong, University of Toronto

Chair: Ying Zhou, University of Toronto

**Room: Elder Tom Crane Bear, Time: 3:20 PM – 5:00 PM**

- (1) Wenxin Zhou, University of California San Diego  
Title: *Robust Estimation and Inference for Joint Quantile and Expected Shortfall Regression*
- (2) Jessica Gronsbell, University of Toronto  
Title: *Towards Efficient Analysis of Electronic Health Records Data*
- (3) Xinyi Zhang, University of Toronto  
Title: *Fighting Noise with Noise: Causal Inference with Many Candidate Instruments*
- (4) Peter Song, University of Michigan  
Title: *Distributed Causal Inference in the Presence of Data-Sharing Barriers*

**Session 13: *Contemporary Advances in Complex Data Analysis***

Organizer: Juxin Liu, University of Saskatchewan

Chair: Guohua Yan, University of New Brunswick

**Room: MB253, Time: 3:20 PM – 5:00 PM**

- (1) Guohua Yan, University of New Brunswick  
Title: *Binary Logistic Models with Partially Crossed Random Effects*
- (2) Longhai Li, University of Saskatchewan  
Title: *Residual Diagnostics for Censored Regression*
- (3) Hui Zhang, Northwestern University  
Title: *Unbiased and Robust Analysis of Co-Localization in Super-Resolution Images*
- (4) Fangya Mao, University of Waterloo  
Title: *Spatial Dependence Modeling of Susceptibility and Failure Times for Processes under Intermittent Observation*

**Session 14: *when Statistics Meets Complex Data: New Methods in Statistical Learning and Inference***

Organizer and Chair: Wen Zhou, Colorado State University

**Room: MB252, Time: 3:20 PM – 5:00 PM**

- (1) HaiYing Wang, University of Connecticut  
Title: *Nonuniform Negative Sampling and Log Odds Correction with Rare Events Data*
- (2) Fang Han, University of Washington  
Title: *On Azadkia-Chatterjee's Correlation Coefficients*

- (3) Zhao Ren, University of Pittsburgh  
Title: *Heteroskedastic Sparse PCA in High Dimensions*
- (4) Yi Archer Yang, McGill University  
Title: *Flexible Regularized Estimating Equations: Some New Perspectives*

**Session 15: *Recent Advances in Data Science***

Organizer: Dehan Kong/Linglong Kong

Chair: Yichi Zhang, North Carolina State University

**Room: MB251, Time: 3:20 PM – 5:00 PM**

- (1) Pang Du, Virginia Tech  
Title: *Optimal Rate of Convergence of Multivariate Nonparametric Change Point Detection*
- (2) Katarzyna Reluga, University of Toronto  
Title: *Post-Selection Inference for Linear Mixed Models*
- (3) Eardi Lila, University of Washington  
Title: *Functional Classification for Manifold Imaging Data*
- (4) Yanyuan Ma, Pennsylvania State University  
Title: *Network Functional Varying Coefficient Model*

**Poster Session, 5:00 pm – 9:00 pm,  
MB Central Foyer**

- (1) Yan Cui, University of Toronto  
Title: *Optimal forecast for locally stationary functional time series using double-sieve method*
- (2) Zehui Wang, Queen's University  
Title: *Estimation of Cutpoint for a Continuous Biomarker and Paired Bootstrap Tests for Treatment-Biomarker Interaction Based on a Nonparametric Measure of Treatment Effects with Survival Data*
- (3) Danika Lipman, University of Calgary  
Title: *Integrative multi-omic analysis reveals enriched pathways associated with COVID-19 and COVID-19 severity*
- (4) Kevin Zhang, University of Toronto  
Title: *Modelling Cellular Development Trajectory using Unbalanced Optimal Transport*
- (5) Mei Li, University of Alberta  
Title: *Trustworthy Data-Driven Decision Making via Conditional Stochastic Optimization*
- (6) Yuze Liu, University of Alberta  
Title: *Sparse Additive Expectile Regression (SAER) in Reproducing Kernel Hilbert Spaces*

- (7) Bo Pan, University of Alberta  
Title: *Sample Average Approximation for Stochastic Optimization with Dependent Data: Performance Guarantees and Tractability*
- (8) Na Zhang, University of Alberta  
Title: *Renewable  $\ell_1$ -regularized linear support vector machine with high-dimensional streaming data*
- (9) Enze Shi, University of Alberta  
Title: *An adaptive model checking test for functional linear model*
- (10) Lei Ding, University of Alberta  
Title: *Word Embeddings via Causal Inference: Gender Bias Reducing and Semantic Information Preserving*
- (11) Ke Sun, University of Alberta  
Title: *Exploring the Training Robustness of Distributional Reinforcement Learning against Noisy State Observations*

**Reception, 6:00 pm – 9:00 pm, MB Central Foyer**

## **Plenary Talk II**

**8:30am - 9:30am, Saturday, July 9th**

### **Session 16: *Keynote Speech 2***

Organizer: Yingwei Peng, Queen's University

Chair: Linglong Kong, University of Alberta

**Room: MB Auditorium, Time: 8:30 AM – 9:30 AM**

- (1) Jianqing Fan, Princeton University  
Title: *The Efficacy of Pessimism in Asynchronous Q-Learning*

**Coffee Break, MB Central Foyer**

## **Parallel Sessions F**

**9:50am - 11:30pm, Saturday, July 9th**

### **Session 17: *Challenges in Modern Data Analysis and Reproducibility***

Organizer: Bei Jiang, University of Alberta

Chair: Jinhan Xie, University of Alberta

**Room: MB Auditorium, Time: 9:50 AM – 11:30 AM**

- (1) Yao Luo, University of Toronto  
Title: *Penalized Sieve Estimation of Structural Models*
- (2) Yeying Zhu, University of Waterloo  
Title: *Causal Mediation Analysis with Multiple Mediators*
- (3) Xiaodong Yan, Shandong University  
Title: *Bandit Inference for Small Group Treatment Effect*

- (4) Radu Craiu, University of Toronto  
Title: *General Behaviour of P-Values Under the Null and Alternative*

**Session 18: *Statistical Considerations in Complex Biomedical Data Analysis***

Organizer and Chair: Weining Shen, University of California, Irvine

**Room: MB252, Time: 9:50 AM – 11:30 AM**

- (1) LAN XUE, Oregon State University  
Title: *Local Signal Detection on Irregular Domains with Spatially Varying Coefficient Model*
- (2) Qingxia Chen, VUMC  
Title: *Estimation of Treatment Effects and Model Diagnostics with Two-Way Time-Varying Treatment Switching: An Application to a Head and Neck Study*

**Session 19: *Modern Statistical Machine Learning in Medicine***

Organizer: Xiaofeng Wang, Cleveland Clinic

Chair: Lingsong Zhang, Purdue University

**Room: MB251, Time: 9:50 AM – 11:30 AM**

- (1) linglong Kong, University of Alberta  
Title: *Gaussian Copula Function-on-Scalar Regression in Reproducing Kernel Hilbert Space*
- (2) Tingting Zhang, University of Pittsburgh  
Title: *A Variational Bayesian Approach to Identifying Whole-Brain Directed Networks with fMRI Data*
- (3) Lingsong Zhang, Purdue University  
Title: *Generative Models for Diabetic Retinopathy Data*
- (4) Xiaofeng Wang, Cleveland Clinic  
Title: *High-Dimensional Variable Selection and Estimation in Functional Cox Models*

**Session 20: *Recent Advances in Statistical Genetics***

Organizer: Dehan Kong, University of Toronto

Chair: Kaiqiong Zhao, University of Alberta

**Room: Elder Tom Crane Bear, Time: 9:50 AM – 11:30 AM**

- (1) Lei Sun, University of Toronto  
Title: *One Step Forward Two Steps Back: Recent Advances and New Challenges in the Analysis of the X Chromosome*
- (2) Yue Niu, University of Arizona  
Title: *Inference for Gaussian Multiple Change-Point Model via Bayesian Information Criterion*
- (3) Michael Wu, Fred Hutchinson Cancer Center  
Title: *Kernel-Based Genetic Association Analysis for Microbiome Phenotypes Identifies Host Genetic Drivers of Beta-Diversity*

- (4) Kai Wang, University of Iowa  
Title: *Two Sample Two Stage Least Squares Mendelian Randomization using Summary Statistics from Heterogeneous Samples*

**Session 21: *Complex and Mass Data Learning***

Organizer: Linglong Kong, University of Alberta

Chair: Dengdeng Yu, University of Texas at Arlington

**Room: MB253, Time: 9:50 AM – 11:30 AM**

- (1) Lingzhu Li, University of Alberta  
Title: *An Adaptive Model Checking Test for Functional Linear Model*
- (2) Will Wei Sun, Purdue University  
Title: *Stochastic Low-Rank Tensor Bandits for Multi-Dimensional Online Decision Making*
- (3) Chad He, Fred Hutchinson Cancer Research Center  
Title: *Subtype Analysis with Somatic Mutations*
- (4) Farouk Nathoo, Mathematics and Statistics, Uvic  
Title: *Ant Colony System Optimization for Spatiotemporal Modelling of Combined EEG and MEG Data*

**Lunch, 11:30 AM - 1:20 PM, Vistas Dining Room**

**Parallel Sessions G**

**1:20pm - 3:00pm, Saturday, July 9th**

**Session 22: *Statistical Learning in Modern Data Analysis***

Organizer: Linglong Kong, University of Alberta

Chair: Xiaodong Yan, Shandong University

**Room: MB Auditorium, Time: 1:20 PM – 3:00 PM**

- (1) Hua Zhou, University of California, Los Angeles  
Title: *A Robust Joint Model of Longitudinal Trajectories and Time-to-Event Data at Biobank Scale*
- (2) Xiao Wang, Purdue University  
Title: *Efficient Multimodal Sampling via Tempered Distribution Flow*
- (3) Hongtu Zhu, The University of North Carolina at Chapel Hill  
Title: *Biobank-Scale Multi-Organ Imaging Genetics and Beyond*
- (4) Ruqing Zhu, University of Illinois Urbana-Champaign  
Title: *Proximal Temporal Consistent Learning for Estimating Infinite Horizon Dynamic Treatment Regimes*

**Session 23: *Recent Development of Statistical Methods for the Analysis of High-Dimensional Data***

Organizer and Chair: Longhai Li, University of Saskatchewan

**Room: MB253, Time: 1:20 PM – 3:00 PM**

- (1) Wei Xu, University of Toronto  
Title: *Machine-Learning Methodology Development on Disease Prediction using Microbiome Sequence Data*
- (2) Haihan Xie, University of Alberta  
Title: *Differentially Private Regularized Stochastic Convex Optimization with Heavy-Tailed Data*
- (3) Asif Nelooy, University of Manitoba  
Title: *Auto-Encoders for Anomaly Detection: Efficiency and Trade-Offs*
- (4) Duncan Fong, Pennsylvania State University  
Title: *A Generalized Ordinal Finite Mixture Regression Model for Market Segmentation*

**Session 24: *Advances in Statistical Modeling and Computing for Complex Data***

Organizer: Weixin Yao, University of California, Riverside

Chair: Esra Kurum, University of California, Riverside

**Room: MB252, Time: 1:20 PM – 3:00 PM**

- (1) Xinping Cui, University of California, Riverside  
Title: *Learning Interactions in Reaction Diffusion Equation with Neural Network*
- (2) Esra Kurum, University of California, Riverside  
Title: *A Bayesian Multilevel Time-Varying Framework for Joint Modeling of Hospitalization and Survival in Patients on Dialysis*
- (3) Luca Bagnato, Università Cattolica Del Sacro Cuore  
Title: *Dimension-Wise Scaled Normal Mixtures*
- (4) Agustin Mayo-Isar, Universidad De Valladolid  
Title: *Robust Proposals for Clustering Based on Trimming and Constraints*

**Session 25: *Topics in Design of Clinical Trials***

Organizer and Chair: Xuekui Zhang, University of Victoria

**Room: MB251, Time: 1:20 PM – 3:00 PM**

- (1) Xuekui Zhang, University of Victoria  
Title: *Application of Group Sequential Methods to the 2-in-1 Design and Its Extensions for Interim Monitoring*
- (2) Leilei Zeng, University of Waterloo  
Title: *Design of Longitudinal Cluster Randomized Trials*
- (3) Xikui Wang, University of Manitoba  
Title: *A New Model of the Continual Reassessment Method for Phase I Clinical Trials*
- (4) Yanqing Yi, Memorial University of Newfoundland  
Title: *A Markov Decision Process for Response Adaptive Designs*

**Session 26: *Statistical Methods for Biomedical Data Science***

Organizer: Dehan Kong, University of Toronto

Saturday, July 9th

Chair: Yi Liu, University of Alberta

**Room: Elder Tom Crane Bear, Time: 1:20 PM – 3:00 PM**

- (1) Gen Li, University of Michigan  
Title: *Scalar-on-Tensor Regression with Incomplete Observations*
- (2) Yuying Xie, Michigan State University  
Title: *Supervised Capacity Preserving Mapping: A Clustering Guided Visualization Method for scRNAseq Data*
- (3) Todd Ogden, Columbia University  
Title: *Nonparametric Functional Data Modeling of Pharmacokinetic Processes with Applications in Dynamic PET Imaging*
- (4) Lily Wang, George Mason University  
Title: *An Efficient Spline Smoothing for 3D Point Cloud Learning*

**Coffee Break, MB Central Foyer**

## Parallel Sessions H

**3:20pm - 5:00pm, Saturday, July 9th**

### Session 27: *Challenges and Developments in New Data Era*

Organizer: Linglong Kong, University of Alberta

Chair: Wei Tu, Queen's University

**Room: MB Auditorium, Time: 3:20 PM – 5:00 PM**

- (1) Jinhan Xie, University of Alberta  
Title: *Statistical Inference for Smoothed Quantile Regression with Streaming Data*
- (2) Wendy Lou, University of Toronto  
Title: *An Integrated Approach with Multiple Longitudinal Markers for Disease Phenotyping*
- (3) Faming Liang, Purdue University  
Title: *Statistical Inference with Sparse Deep Learning*
- (4) Jian Kang, University of Michigan  
Title: *Bayesian Spatially Varying Weight Neural Networks with the Soft-Thresholded Gaussian Process Prior*

### Session 28: *Non-Parametric Methods for Biomedical Data*

Organizer and Chair: Zhengwu Zhang, University of North Carolina at Chapel Hill

**Room: Elder Tom Crane Bear, Time: 3:20 PM – 5:00 PM**

- (1) Benjamin Risk, Emory University  
Title: *Correcting Sampling Bias in Neuroimaging Studies using Doubly Robust Nonparametric Inference*

- (2) Yi Zhao, Indiana University  
Title: *Hierarchical Tree Data in Regularized Regression: A Path Analysis Perspective*
- (3) Fei Gao, Fred Hutchinson Cancer Center  
Title: *Noniterative Adjustment to Regression Estimators with Population-Based Auxiliary Information for Semiparametric Models*
- (4) Zhengwu Zhang, University of North Carolina Chapel Hill  
Title: *Analyzing Brain Structural Connectivity as Continuous Functions*

**Session 29: *Epidemic Modelling and Surveillance***

Organizer and Chair: Rob Deardon, University of Calgary

**Room: MB253, Time: 3:20 PM – 5:00 PM**

- (1) Laura Cowen, University of Victoria  
Title: *Estimating the Scope of the COVID-19 Pandemic in Canada.*
- (2) MD Mahsin, University of Calgary  
Title: *Spatial Modeling of Infectious Disease Transmission using Continuous-Time Geographically-Dependent Individual-Level Mode*
- (3) Madeline Ward, University of Calgary  
Title: *Incorporating Behavioural Change into Spatial Individual-Level Models for Infectious Disease Transmission*

**Session 30: *Variable Selection Methods for Correlated Data in High-Dimensions***

Organizer: Sahir Bhatnagar, McGill University

Chair: Sahir Bhatnagar, McGill University

**Room: MB252, Time: 3:20 PM – 5:00 PM**

- (1) Julien St-Pierre, McGill University  
Title: *Efficient Penalized Generalized Linear Mixed Models for Variable Selection and Genetic Risk Prediction in High-Dimensional Data*
- (2) Kevin McGregor, York University  
Title: *Microbial Diversity Estimation and Hill Number Calculation using the Hierarchical Pitman-Yor Process*
- (3) Maxime Turgeon, University of Manitoba  
Title: *Generalized Soft Impute for Matrix Completion*
- (4) Sahir Bhatnagar, McGill University  
Title: *Variable Selection in Parametric Hazard Models*

**Session 31: *Statistical Learning in Large-Scale Medical Imaging Studies***

Organizer: Chao Huang, Florida State University

Chair: Junhao Zhu, University of Toronto

**Room: MB252, Time: 3:20 PM – 5:00 PM**

- (1) Yafei Wang, University of Alberta  
Title: *Bayesian Distributionally Robust Optimization with Discrete Finite Support*



Saturday, July 9th

- (2) Hai Shu, New York University  
Title: *Orthogonal Common-Source and Distinctive-Source Decomposition Between High-Dimensional Data Views*
- (3) Xiaoxiao Li, The University of British Columbia  
Title: *Learning Neuroimaging Data with Deep Graph Neural Network*
- (4) Dengdeng Yu, UNIVERSITY of TEXAS at ARLINGTON  
Title: *Mapping the Genetic-Imaging-Clinical Pathway with Applications to Alzheimer's Disease*

**5:15-6:45 PM ICSA-Canada Chapter Annual General Meeting (AGM)**  
**Room: Elder Tom Crane Bear.**

**7:00-10:00 PM Banquet**  
**Room: Kinnear Centre 103-105**

## Plenary Talk III

### 8:15am - 9:15am, Sunday, July 10th

#### Session 32: *Keynote Speech 3*

Organizer and Chair: Yingwei Peng, Queen's University

**Room: MB Auditorium, Time: 8:15 AM – 9:15 AM**

- (1) Xiaotong Shen, University of Minnesota  
Title: *Data Perturbation*

**Coffee Break, MB Central Foyer**

## Parallel Sessions J

### 9:50am - 11:30pm, Sunday, July 10th

#### Session 33: *Recent Advances in Functional Data Analysis*

Organizer and Chair: Peijun Sang, University of Waterloo

**Room: MB Auditorium, Time: 9:50 AM – 11:30 AM**

- (1) Bing Li, Pennsylvania State University  
Title: *Functional Directed Acyclic Graphs*
- (2) Fang Yao, Peking University  
Title: *Online Estimation for Functional Data*
- (3) Yehua Li, University of California, Riverside  
Title: *Semiparametric Functional Regression Models with Multivariate Functional Predictors*
- (4) Zuofeng Shang, New Jersey Institute of Technology  
Title: *Deep Neural Network Classifier for Multi-Dimensional Functional Data*

#### Session 34: *Recent Development in Causal Inference*

Organizer and Chair: Yeying Zhu, University of Waterloo

**Room: MB251, Time: 9:50 AM – 11:30 AM**

- (1) Mireille Schnitzer, Université De Montréal  
Title: *Estimands and Estimation of COVID-19 Vaccine Effectiveness under the Test-Negative Design: Connections to Causal Inference*
- (2) Karim Mohammad Ehsanul, The University of British Columbia  
Title: *Finite Sample Properties of Inverse Probability of Adherence Weighted Estimator of the per-Protocol Effect for Sustained Treatment Strategies*
- (3) Zhaohan Sun, University of Waterloo  
Title: *Estimation of Network Treatment Effects with Nonignorable Missing Confounders*
- (4) Shujie Ma, University of California, Riverside  
Title: *Causal Inference via Artificial Neural Networks: From Prediction to Causation*

**Session 35: *Optimal Sampling Designs for Analyses of Microbiome and Anthropometry Data***

Organizer and Chair: Ying Zhang, Acadia University

**Room: MB253, Time: 9:50 AM – 11:30 AM**

- (1) Hong Gu, Dalhousie University  
Title: *Optimal Sampling Schemes for Modelling Microbiome Temporal Dynamics using an OU Process*
- (2) Toby Kenney, Dalhousie University  
Title: *Sampling Schemes for OU Models of Microbiome Data with Measurement Error.*
- (3) Wilson Lu, Acadia University  
Title: *Multivariate Probability Proportional to Size Sampling Design on Anthropometric Data*
- (4) Xiaojian Xu, Brock University  
Title: *Optimal Designs for Generalized Linear Mixed Models*

**Session 36: *Statistical Methods for Complex Data***

Organizer: Yinli Qin, University of Waterloo

Chair: Liqun Diao, University of Waterloo

**Room: MB252, Time: 9:50 AM – 11:30 AM**

- (1) Xiaowu Dai, University of California, Berkeley  
Title: *Kernel Ordinary Differential Equations*
- (2) Hao Chen, University of California, Davis  
Title: *A Universal Nonparametric Event Detection Framework for Modern Data*
- (3) Liqun Diao, University of Waterloo  
Title: *Adaptive Response-Dependent Two-Phase Designs: Some Results on Robustness and Efficiency*
- (4) Mu Zhu, University of Waterloo  
Title: *Some Statistical Applications of Generative Neural Networks*

**Session 37: *Statistical Methods for Extreme Value Analysis***

Organizer: Dehan Kong, University of Toronto

Chair: Dingke Tang, University of Toronto

**Room: Elder Tom Crane Bear, Time: 9:50 AM – 11:30 AM**

- (1) Sebastian Engelke, University of Geneva  
Title: *Extremal Graphical Models*
- (2) Stanislav Volgushev, University of Toronto  
Title: *Structure Learning for Extremes*
- (3) Nicola Gnecco, University of Geneva  
Title: *Extremal Random Forests*

- (4) Huixia Wang, George Washington University  
Title: *Extreme Quantile Estimation Based on the Tail Single-Index Model*

**Lunch, 11:30 AM - 1:20 PM, Vistas Dining Room**

**Parallel Sessions K**  
**1:20pm - 3:00pm, Sunday, July 10th**

**Session 38: *Approaches to Measurement Error and Misclassification***

Organizer and Chair: Hua Shen, University of Calgary

**Room: MB Auditorium, Time: 1:20 PM – 3:00 PM**

- (1) Liqun Wang, University of Manitoba  
Title: *Instrumental Variable Estimation in Measurement Error Models with Ordinal Responses*
- (2) Lang Wu, University of British Columbia  
Title: *A Nonlinear Measurement Error Model for Survival Analysis*
- (3) Hua Shen, University of Calgary  
Title: *Analysis of Probability Sample and Non-Probability Sample Subject to Misclassification*

**Session 39: *Statistical Learning and Causal Inference***

Organizer and Chair: Mireille Schnitzer, Université De Montréal

**Room: Elder Tom Crane Bear, Time: 1:20 PM – 3:00 PM**

- (1) Kuan Liu, University of Toronto  
Title: *Bayesian Approaches to Causal Inference with Latent Confounders*
- (2) Janie Coulombe, McGill University  
Title: *Causal Inference with Data Subject to Covariate-Dependent Observation Times: An Application to a Cohort of New Users of Antidepressants*
- (3) Linbo Wang, University of Toronto  
Title: *Fighting Noise with Noise: Mendelian Randomization with Pseudo Variables*
- (4) Yongjin Park, University of British Columbia  
Title: *Resolving Causality in Single-Cell Biology*

**Session 40: *Topics in High-Dimensional Statistics***

Organizer: Yi Lian, McGill University

Chair: Yi Lian, McGill University

**Room: MB251, Time: 1:20 PM – 3:00 PM**

- (1) Xiaomeng Ju, University of British Columbia  
Title: *Robust Gradient Boosting for Regression Problems*

Sunday, July 10th

- (2) Zhiyu Quan, University of Illinois at Urbana-Champaign  
Title: *Improving Business Insurance Loss Models by Leveraging InsurTech Innovation*
- (3) Ziang Niu, University of Pennsylvania  
Title: *Estimation and Inference for High-Dimensional Nonparametric Additive Instrumental-Variables Regression*
- (4) Wei Qian, University of Delaware  
Title: *Adaptive Algorithm for Multi-Armed Bandit Problem with High-Dimensional Covariates*

**Session 41: *Statistical Application of Functional Data Analysis***

Organizer and Chair: Haolun Shi, Simon Fraser University

**Room: MB252, Time: 1:20 PM – 3:00 PM**

- (1) Peijun Sang, University of Waterloo  
Title: *Statistical Inference for Functional Linear Quantile Regression*
- (2) Tianyu Guan, Brock University  
Title: *Exploring Pre-Launch Movie Electronic Word of Mouth Time Series by Functional Data Analysis*
- (3) Zhiyang Zhou, University of Manitoba  
Title: *Smooth Nonparametric Dynamic Prediction for Competing Risks via Deep Learning*
- (4) Haolun Shi, Simon Fraser University  
Title: *A Robust Approach to Functional Principal Component Analysis*

**Coffee Break, MB Central Foyer**

## **Parallel Sessions L**

**3:20pm - 5:00pm, Sunday, July 10th**

**Session 42: *Recent Advances in Causal Identification***

Organizer and Chair: Linbo Wang, University of Toronto

**Room: MB Auditorium, Time: 3:20 PM – 5:00 PM**

- (1) Andrew Ying,  
Title: *Proximal Causal Inference for Complex Longitudinal Studies*
- (2) Dingke Tang, University of Toronto  
Title: *The Synthetic Instrument Method*
- (3) Ilya Shpitser, Johns Hopkins University  
Title: *The Proximal ID Algorithm*
- (4) Dominik Rothenhaeusler, Stanford University  
Title: *Causal Aggregation: Estimation and Inference of Causal Effects by Aggregating Information Across Data Sets*

**Session 43: *High Dimensional Data Analysis***

Organizer and Chair: Xiaoping Shi, The University of British Columbia - Okanagan

**Room: MB253, Time: 3:20 PM – 5:00 PM**

- (1) Elham Jamali, University of Calgary  
Title: *Doubly Sparse Cox Proportional Hazards Model with a Graphical Structure among Predictors*
- (2) Augustine Wong, York University  
Title: *A Higher Order Likelihood-Based Statistical Inference Procedure for a Vector Parameter of Interest*
- (3) W. John Braun, University of British Columbia  
Title: *The Perfect Fire - Segmenting a Video Recording of a Microfire*
- (4) Xiaoping Shi, The University of British Columbia - Okanagan  
Title: *Two Edge-Count Tests and Relevance Analysis in  $k$  High-Dimensional Samples*

**Session 44: *Statistical Disclosure Control Methods for Privacy***

Organizer: Bei Jiang, University of Alberta

Chair: Haihan Xie, University of Alberta

**Room: MB251, Time: 3:20 PM – 5:00 PM**

- (1) Yi Liu, University of Alberta  
Title: *A Bridge to Gaussian Differential Privacy*
- (2) Bei Jiang, University of Alberta  
Title: *Creation of Privacy-Preserving Synthetic Data for Research Reproducibility, with Application to Patient Registry Data*
- (3) Fang Liu, University of Notre Dame  
Title: *A New Bound for Privacy Loss from Bayesian Posterior Sampling*
- (4) Wei Tu, Queen's University  
Title: *Differential Privacy with Survival Data*

**Session 45: *Advances in the Analysis of Complex Lifetime Data***

Organizer and Chair: Hua Shen, University of Calgary

**Room: MB252, Time: 3:20 PM – 5:00 PM**

- (1) Renjun Ma, University of New Brunswick  
Title: *Survival Analysis of Car Accident Data While Accounting for Partially Crossed Location and Agent Effects*
- (2) Karen Kopciuk, University of Calgary  
Title: *Generating and Modelling Time-to-Event Data for Family Study Designs in Genetics Applications*
- (3) Yildiz Yilmaz, Memorial University  
Title: *Multi-State Cure Modeling of Cancer Progression*

- (4) Hua Shen, University of Calgary  
Title: *Analysis of Recurrent Events with a Misclassified Covariate*

**Session 46: *Statistical Learning Methods and Applications***

Organizer and Chair: Kaiqiong Zhao, University of Alberta

**Room: Elder Tom Crane Bear, Time: 3:20 PM – 5:00 PM**

- (1) Qiongshi Lu, University of Wisconsin-Madison  
Title: *Benchmarking and Fine-Tuning Prediction Models with Marginal Summary Statistics*
- (2) Quefeng Li, University of North Carolina at Chapel Hill  
Title: *Integrative Factor Regression and Its Inference for Multimodal Data Analysis*
- (3) Lucy Gao, University of British Columbia  
Title: *Valid Inference After Clustering*
- (4) Changge Chang, University of Pennsylvania Title: *CEDAR: Communication Efficient Distributed Analysis for Regressions*

# List of Participants

Note: late registrants are not listed here.

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