



## **Program Brochure**

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Simon Fraser University



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#### **Organizing Committee**

The conference program is organized by Jiguo Cao, Haolun Shi, and Liangliang Wang from Simon Fraser University.



Map of Harbour Center SFU 1<sup>st</sup> Floor:

#### Map Around SFU Harbour Center:

🔊 🗫 – Seaside Greenway (Seawall)

One way streets

F

**Aquabus Ferries** False Creek Ferries



# Skytrain map of Vancouver (SFU Harbour Center is located near Waterfront Station)



## General Schedule

	Monday, June 23	Tuesday, June 24	Wednesday, June 25
Keynote talks	8:30 - 9:30	8:30 - 9:30	8:30 - 9:30
Break	9:30-10:00	9:30-10:00	9:30-10:00
Invited talks	10:00-11:40	10:00-11:40	10:00-11:40
Lunch	11:40 - 13:30	11:40 - 13:30	11:40 - 13:30
Invited/Contributed talks	13:30 - 15:10	13:30 - 15:10	13:30 - 15:10
Break	15:10-15:40	15:10-15:40	15:10-15:40
Invited/Contributed talks	15:40 - 17:20	15:40 - 17:20	15:40 - 17:20

## Keynote Speakers

#### **Keynote Speaker: Jane-Ling Wang**

Jun 23 8:30-9:30 HC1700 Labatt Hall

Jane-Ling Wang, University of California Davis Chair: Nancy Heckman, University of British Columbia **Hypothesis testing for black-box survival models** 

Deep learning has become enormously popular in the analysis of complex data, including event time measurements with censoring. To date, deep survival methods have mainly focused on prediction. Such methods are scarcely used in statistical inference such as hypothesis testing. Due to their black-box nature, deep-learned outcomes lack interpretability which limits their use for decision-making in biomedical applications. Moreover, conventional tests fail to produce reliable type I errors due to the ability of deep neural networks to learn the data structure under the null hypothesis even if they search over the full space. This talk provides testing methods for survival models and demonstrates its use in the nonparametric Cox model, where the nonparametric link function is modeled via a deep neural network. To perform hypothesis testing, we utilize sample splitting and cross-fitting procedures to get neural network estimators and construct the test statistic. These procedures enable us to propose a new significance test to examine the association of certain covariates with event times. We show that the test statistic converges to a normal distribution under the null hypothesis and establish its consistency, in terms of the Type II error, under the alternative hypothesis. Numerical simulations and a real data application demonstrate the usefulness of the proposed test.

#### Keynote Speaker: Hans-Georg Müller

Jun 24 8:30-9:30 HC1700 Labatt Hall

Hans-Georg Müller, University of California Davis Chair: Liangliang Wang, Simon Fraser University Uncertainty Quantification for Random Objects Through Conformal Inference

Quantifying the centrality for object-valued responses, i.e., data situated in general metric spaces such as compositional data, networks, distributions, covariance matrices and also high-dimensional and functional data paired with Euclidean predictors, is of interest for many statistical applications. We employ a conformal approach that utilizes conditional optimal transport costs for distance profiles, which correspond to one-dimensional distributions of probability mass falling into balls of increasing radius. The average transport cost to transport a given distance profile to all other distance profiles is the basis for the proposed conditional profile scores and the distribution of these costs leads to the proposed conformity score. Uniform convergence of this conformity score estimators imply the asymptotic conditional validity for the resulting prediction sets, which quantify the uncertainty inherent in a new observation. The proposed conditional profile score can be used to determine the outlyingness of a new observation as we demonstrate for various data, including longitudinal compositional data reflecting brain development of children. This talk is based on joint work with Hang Zhou and Yidong Zhou.

#### **Keynote Speaker: Martin Esther**

Jun 25 8:30-9:30 HC1700 Labatt Hall

Martin Esther, Simon Fraser University Chair: Ke Li, Simon Fraser University A machine learning approach for causal inference from observational data

Causal inference, i.e. the estimation of treatment effects from observational data, has many applications in domains such as public health, personalized medicine, economics, and recommender systems. Different from randomized controlled trials, in observational data treatment assignment is not random, but depends in an unknown way on some confounder(s). This selection bias poses a major challenge for causal inference, since outcomes recorded in the dataset measure the combined effect of the treatment and the confounder. In the machine learning community, the representation learning approach has demonstrated remarkable success in adjusting for the covariate shift induced by selection bias. The idea is to learn a balanced representation of covariates, i.e. a latent representation that has a similar distribution for the treatment and control groups, rather than balancing the covariates themselves. In this talk, we will introduce the machine learning approach and discuss methods for various scenarios, including Boolean treatments, continuous treatments, and multiple treatments. We will conclude with a discussion of future research directions.

## List of Organized Sessions

## Invited Talk Session 1: Robust Statistical Methods for Complex

#### **Data Challenges**

Chair: Li Xing, Organized By: Li Xing

Jun 23 10:00-11:40 HC1700 Labatt Hall

Jiahua Chen, University of British Columbia Byzantine--tolerant distributed learning of finite mixture models

Grace Yi, University of Western Ontario Function-on-Scalar Linear Regression with Covariate Measurement Error

Wenqing He, University of Western Ontario A unified framework of analyzing missing data and variable selection using regularized likelihood

Zhenhua Lin, National University of Singapore Two-sample distribution tests in high dimensions via max-sliced Wasserstein distance and bootstrapping

#### **Invited Talk Session 2: Environmental Modelling**

Chair: W. John Braun, Organized By: W. John Braun

Jun 23 10:00-11:40 HC1520

Deniz Sezer, University of Calgary

A Markov Chain Gaussian Process framework for modeling wind speed over a large geographical area

Ladan Tazik, University of British Columbia-Okanagan Quantifying Variability in Fire Spread Using Image Segmentation and Statistical Modeling

Ken Peng, Simon Fraser University

Evaluating COVID-19 Hospitalization Risk Using Wastewater Viral Signals: A Multi-State Model Approach

#### **Invited Talk Session 3: Emerging Methods in Survival and**

#### **Longitudinal Data Analysis**

Chair: Jianghu Dong, Organized By: Jianghu Dong

Jun 23 10:00-11:40 HC1325

Margaret Stedman, University of Stanford Esimating Life Years Gained from Transplant using Flexible Parametric Survival Models

*Kevin He, University of Michigan* **Bregman Divergence Based Deep Learning for Survival Analysis with Data Integration** 

*Lei Liu, Washington University in St. Louis* **Deep learning in survival analysis** 

Hongbin Zhang, University of Kentucky Inferring the timing of antiretroviral therapy by zero-inflated random change point models using longitudinal data subject to left-censoring.

## Invited Talk Session 4: Data-Driven Decision Making in Public

#### Health

Chair: Roshni Sahoo, Organized By: Roshni Sahoo

Jun 23 10:00-11:40 HC1315

Marissa Reitsma, Stanford University Optimizing public health responses to the syndemic of substance use, overdose, HIV, and hepatitis C virus

Shuo Feng, Brown University Living in a Parallel World? Difference-in-differences for infectious disease outcomes

Divya Shanmugam, Cornell Tech When Coverage Drives Care: The Public Health Consequences of Insurance Design

Aishwarya Mandyam, Stanford University Adaptive Interventions with User-Defined Goals for Health Behavior Change

#### **Invited Talk Session 5: Bayesian Computational Methods**

Chair: Liangliang Wang, Organized By: Liangliang Wang

Jun 23 13:30-15:10 HC1700 Labatt Hall

*Alexandre Bouchard-Côté, University of British Columbia* **How to choose an annealing algorithm** 

Trevor Campbell, University of British Columbia Asymptotically Exact Variational Inference via Involutive Iterated Random Functions

Owen Ward, Simon Fraser University Scalable Bayesian computation for networks utilising Aggregated Relational Data

Renny Doig, Simon Fraser University PANA-C: A parallel MCMC algorithm for annealed Monte Carlo sampling

#### Invited Talk Session 6: Statistical Imaging and Vision

Chair: Bahadır YÜZBAŞI

Jun 23 13:30-15:10 HC1520

*Michelle Miranda, University of Victoria* **Tensor basis strategies for fMRI: fast and scalable MCMC methods** 

*Cédric Beaulac, Université du Québec à Montréal* **From Pixels to Shapes: A Functional Framework for Image Analysis** 

*Xiaomeng Ju, NYU* Bayesian scalar-on-network regression with applications to brain functional connectivity

Donghui Son, Simon Fraser University

Multitask Spatial Bayesian Additive Regression Tree Model with Response-Specific Variable Selection: Application to Imaging Genetics.

#### **Invited Talk Session 7: Causal Inference in Observational Studies**

Chair: Charlie (Haoxuan) Zhou

Jun 23 13:30-15:10 HC1325

*Rhonda Rosychuk, University of Alberta* **Comparing Approaches for Clinical Decision Rule Development with a Large Multijurisdictional Database** 

Fei Wan, Washington University in St Louis Propensity Score Matching: should we use it in designing observational studies?

Jianghu(James) Dong, University of Nebraska Medical Center **Dynamic Biomarker Regime Switches in Personalized Treatment Strategies** 

Yidong Zhou, UC Davis Geodesic Causal Inference

#### Invited Talk Session 8: Bayesian Method in Adaptive Trial Design

Chair: Yichen Yan, Organized By: Haolun Shi

Jun 23 13:30-15:10 HC1315

*Ying Yuan, MD Anderson Cancer Center* **A Bayesian latent-subgroup phase I/II platform design to co-optimize doses in multiple indications** 

Ruitao Lin, MD Anderson Cancer Center TODO: A Triple-Outcome Double-Criterion Optimal Design for Dose Monitoring-and-Optimization in Multi-Dose Randomized Trials

Richard Yan, Simon Fraser University A Generalized Phase I/II Dose Optimization Trial Design With Multi-Categorical and Multi-Graded Outcomes

Yueyang Han, Simon Fraser University Testing the Effectiveness of Treatment for Cancers for which the Endpoint is Survival Using Bayesian Subgroup Analysis

#### **Invited Talk Session 9: Statistical Learning and Dimensionality**

#### **Reduction**

Chair: Joan hu Jun 23 15:40-17:20 HC1700 Labatt Hall

John Braun, University of British Columbia, Okanagan Iterated Data Sharpening in Local Linear Regression

Ke Li, Simon Fraser University Rethinking Regression: Insights from Machine Learning

Jesse Ghashti, University of British Columbia, Okanagan Mixed-type fuzzy clustering using kernel distance metrics

*Olivier Thas, Hasselt University, Belgium* **Adaptive Large Scale Hypothesis Tests** 

#### Invited Talk Session 10: Invited Session Organized by Adam

#### Kashlak

Chair: Adam Kashlak, Organized By: Adam Kashlak

Jun 23 15:40-17:20 HC1520

Benjamin Bloem-Reddy, University of British Columbia Randomization Tests for Conditional Group Symmetry

Andrew McCormack, University of Alberta The Unbiasedness Threshold

Pardis Semnani, University of British Columbia Parameter Estimation in Time-series Data Using Signature Tensors

Adam Kashlak, University of Alberta Functional Kalman Filtering and Smoothing for Accelerometer Data

#### Invited Talk Session 11: Functional and Longitudinal Modeling

Chair: Yidong Zhou

Jun 23 15:40-17:20 HC1325

*Tianyu Guan, York University* Historical functional linear model with time-varying delay parameter

Sidi Wu, Fuzhou University Neural Networks for Functional Data Analysis

Matthew Parker, Simon Fraser University Bayesian Inference on Time-Varying Parameters in Recapture Models in the Framework of Functional Data Analysis

Erin Zhang, Simon Fraser University Robust Bayesian functional principal component analysis

#### **Contributed Session 1: Monday**

Chair: Samir Arora

Jun 23 15:40-17:20 HC1315

Tanya Kovalova, McMaster University Sharing alpha during interim analysis with multiple primary outcomes.

Roshni Sahoo, Stanford University Learning from a Biased Sample

Guilherme Lopes de Oliveira, McGill University and Federal Center for Technological Education of Minas Gerais (CEFET-MG), Brazil Addressing Underregistration in Epidemiological Data: A Bayesian Random-Censoring Poisson-Logistic Model

Sadra Nejati, University of British Columbia Adjustable Robust Optimization Reformulations for Support Vector Machines

Edward Yalley, Louisiana State University Misconceptions, understandings, and developmental theories in stochastic reasoning

*Kunj Guglani, Australian National University* **Comparative Analysis of Privacy in Sampling Methods** 

Sankhapali Polgolla, University of Calgary Identifiability and a Robust Estimation of Semiparametric Location-Scale Mixture Models

Deepak Prajapati, Indian Institute Of Management Lucknow **Two Sample Bayesian Acceptance Sampling Plan** 

# Invited Talk Session 12: Variance Estimation and Statisical

Inference

Chair: Alex Stringer

Jun 24 10:00-11:40 HC1700 Labatt Hall

Lang Wu, University of British Columbia Jointly Modelling Means and Variances in Mixed Effects Models for Efficient and Robust Inference

*Liqun Wang, University of Manitoba* **Regularized Estimation of covariance matrix and error variance in high-dimensional models** 

Tao Wang, University of Victoria Distributed Mode Learning

Thomas Farrar, Cape Peninsula University of Technology A Class of Auxiliary Models for Variance Estimation in Heteroskedastic Linear Models

#### **Invited Talk Session 13: Pushing Causal Inference Forward:**

#### **Blending Machine Learning and Statistical Innovation**

Chair: Belal Hossain, Organized By: Belal Hossain

Jun 24 10:00-11:40 HC1325

Lawrence McCandless, Simon Fraser University Bayesian Quantile Regression for Robust Treatment Effect Estimation

Ehsan Karim, University of British Columbia Comparing TMLE Variants: Balancing Efficiency and Reliability in Causal Inference

*Paul N. Zivich, University of North Carolina at Chapel Hill* Stabilizing Causal Estimates: Tackling Random Seed Dependence in Machine Learning

Mathias Lécuyer, University of British Columbia Training Causal Time-Series Models for Generalizable Forecasting

#### **Invited Talk Session 14: New developments on survival analysis**

#### and variable selection

Chair: Xuewen Lu, Organized By: Xuewen Lu

Jun 24 10:00-11:40 HC1315

Thierry Chekouo Tekougang, University of Minnesota A non-parametric Integrative Bayesian Approach for Variable Selection and Prediction

Zhou Lan, Brigham and Women's Hospital, Havard Medical School Fiber Microstructure Quantile (FMQ) Regression: A Novel Statistical Approach for Analyzing White Matter Bundles from Periphery to Core

Fatemeh Mahmoudi, Mount Royal University Recent Advances in Variable Selection

Longlong Huang, University of the Fraser Valley

Survival Outcomes Associated with First and Second-Line Palliative Systemic Therapies in Patients with Metastatic Bladder Cancer --- An Application of Restricted Mean Survival Time Analysis

#### **Invited Talk Session 15: Advanced Statistical Modeling for**

#### **Complex Time-to-Event and Spatial-Temperal Data**

Chair: Yiming Tang

Jun 24 13:30-15:10 HC1700 Labatt Hall

*Joan Hu, Simon Fraser University* Learning from Terror Attacks in South Asia with Extended Hawkes Process Models

*Xuewen Lu, University of Calgary* Variable Selection for the Generalized Odds Rate Non-mixture Cure Model with interval-censored Data

Li Xing, University of Saskatchewan Concurrent Prediction of Multiple Survival Outcomes with a Refined Stacking Algorithm

Hua Liu, Xi'an Jiaotong University

Similarity-Informed Transfer Learning for Multivariate Functional Censored Quantile Regression

### Invited Talk Session 16: Innovations in Statistical Theory, Design, and Applications

Chair: Jean-François Bégin

Jun 24 13:30-15:10 HC1325

*Julie Zhou, University of Victoria* **Computing and verifying E-optimal regression designs on discrete design spaces** 

*Alex Stringer, University of Waterloo* Semi-parametric benchmark dose analysis with monotone splines

Irene Vrbik, University of British Columbia, Okanagan Quantitative Insights into Data Science Curricula

*Xiaoping Shi, University of British Columbia, Okanagan* **Approximate inference with exponential tilting densities: theory and applications** 

## Invited Talk Session 17: Advancing Predictive Analytics for Health Outcomes: Addressing Uncertainty, Customization, High-

#### **Dimensionality, and Privacy**

Chair: Ehsan Karim, Organized By: Ehsan Karim

Jun 24 13:30-15:10 HC1315

Mohsen Sadatsafavi, University of British Columbia Quantifying Uncertainty's Clinical Impact: Decision Theory in Predictive Analytics

Belal Hossain, St. Paul's Hospital Vancouver, The University of British Columbia Boosting Predictions with High-Dimensional Administrative Data: A Tuberculosis Case Study

Hanna Frank, University of British Columbia Customizing Risk: Building a Disease-Specific Comorbidity Index for Multiple Sclerosis

*Aline Talhouk, University of British Columbia* **Privacy-Preserving Predictions: Federated Learning for Distributed Healthcare Data** 

#### **Invited Talk Session 18: Bayesian Models for Complex Data**

#### **Structures**

Chair: David Stenning Jun 24 15:40-17:20 HC1700 Labatt Hall

Longhai Li, University of Saskatchewan **Z-residuals for Diagnosing Bayesian Hurdle Models** 

#### Jabed Tomal, Thompson Rivers University

A Bayesian hierarchical generalized weighted Poisson regression model for analyzing over- and under-dispersed count data: A case study of fertility patterns in Bangladesh

Jie Jian, University of Chicago Bayesian Tensor Decomposition for Uncovering Complex Dependencies in International Trade

*Guilherme Augusto Veloso, Fluminense Federal University, Brazil* **A Bayesian Space-Time Model for Underreported Data: Application to Tuberculosis in Brazilian States, 2000–2022** 

#### **Invited Talk Session 19: Time Series and Financial Modeling**

Chair: Bingfan Liu

Jun 24 15:40-17:20 HC1325

Jean-François Bégin, Simon Fraser University The stochastic behaviour of electricity prices under scrutiny: Evidence from spot and futures markets

Hashan Peiris, Simon Fraser University Developing Telematics Safety Scores by Regulatory Compliance

Shouxia Wang, Shanghai University of Finance and Economics High Dimensional Data Assimilation by Optimal Multigrid Ensemble Kalman Filter

Yiming Tang, Shanghai Lixin University of Accounting and Finance A Dual-Basis Multiscale Mixing Architecture for Long-Term Irregular Time Series Forecasting

#### **Contributed Session 2: Tuesday**

Chair: Matthew Parker

Jun 24 15:40-17:20 HC1315

Rajitha Senanayake, McMaster University repSpat – A Nonparametric Framework for Repeated Spatial Clustering

Louis Arsenault-Mahjoubi, Simon Fraser University Computational methods for deterministic nonlinear non-Gaussian filtering in finance

Nahid Sadr, Department of Mathematics and Statistics, Université de Sherbrooke Max-Stability and Sampling Methods for Distorted Extreme Value Copulas

Jesse Ghashti, University of British Columbia, Okanagan A Kernelized Similarity Learning Framework for Clustering Mixed-Type Data with Applications to Spectral Clustering

Yao Zhao, Temple University An Efficient Estimation of Functional Structural Equation Model

Nkechi Grace Okoacha, Pan-Atlantic University, Lagos, Nigeria Power-Lindley Generalized Pareto Distribution: A New Approach for Modeling Heavy-Tailed Data

Kavita Rathod, Veer Narmad Souith Gujarat University, Surat,India Estimation of regression coefficients for finite population under two stage sampling

#### **Invited Talk Session 20: Data Science in Sports Analytics**

Chair: Tianyu Guan, Organized By: Tianyu Guan

Jun 25 10:00-11:40 HC1700 Labatt Hall

Tim Swartz, Simon Fraser University Sports Analytics for Pickleball

Scott Powers, Rice University Winning Baseball Games by Solving Statistics Puzzles

Nathan Sandholtz, Brigham Young University Investigating the Spatial Component of Serving Strategies in Tennis

Shifan Jia, Simon Fraser University A New Function-on-Function Regression Model for Rowing Data Analysis

#### **Invited Talk Session 21: Novel statistical methods for complex**

#### data analysis

Chair: Xiaotian Dai, Organized By: Xuewen Lu

Jun 25 10:00-11:40 HC1315

Dengdeng Yu, University of Texas at San Antonio Word Embeddings via Causal Inference: Gender Bias Reducing and Semantic Information Preserving

Clara Xing Wang, Illinois State University Multi-output Extreme Spatial Model for Complex Production Systems

Xiaotian Dai, Illinois State University Incorporating gene ontology and disease ontology into Bayesian genomic selection method

Jiatao Zhong and Xiaoping Shi (co-speakers), University of British Columbia-Okanagan Energy-based segmentation methods for non-Gaussian noised images

#### **Invited Talk Session 22: Statistical Machine Learning Methods**

Chair: Bingfan Liu, Organized By: Bingfan Liu

Jun 25 10:00-11:40 HC1325

Archer Yi Yang, McGill University Multivariate Conformal Selection

Henan Xu, University of Waterloo Functional Causal Mediation Analysis with Sparse Longitudinal Data and a Zeroinflated Count Outcome

Bingfan Liu, Simon Fraser University LongSurvFormer: Transformer-based Joint Modeling for Dynamic Survival Prediction using Longitudinal Images

Jiaqi Men, Shanghai University of Finance and Economics, China Generalized Functional Additive Nonlinear Models with Multimodal Interaction Effects

#### Invited Talk Session 23: Clinical Study Design and Meta-Analysis

Chair: Lin Zhang

Jun 25 13:30-15:10 HC1700 Labatt Hall

Mohsen Sadatsafavi, The University of British Columbia Bayesian sample size calculations for external validation studies of risk prediction models

*Lloyd T. Elliott, Simon Fraser University* **Statistical considerations for consortia and meta-analysis** 

Maurice O'Connell, University of Manchester

Causal machine learning methods and sequential target trial emulation for dynamic and static treatment strategies deprescribing medications in a polypharmacy population using electronic health records.

Piaomu Liu, Bentley University

Analyzing Organizational Risks and Responses to Data Breaches

#### **Contributed Session 3: Wednesday**

Chair: Erin (Jiarui) Zhang

Jun 25 13:30-15:10 HC1325

Jesus E. Vazquez, University of North Carolina at Chapel Hill Robust Estimation for Longitudinal Models Indexed by Time to Event

Shayan Razmi, University of British Columbia Prediction of Alzheimer's disease using CNN networks

Hedayat Fathi, Université Laval

Selection of functional predictors and smooth coefficient estimation for scalar-onfunction regression models

Samir Arora, Simon Fraser University SPAFIT: Bayesian Empowered Parameter-Efficient Fine-Tuning Search and Model Training for LLMs

Justin Holman, Colorado State University - Pueblo Teaching Multiple Regression: A Review

Saeed Aldahmani, UAEU College of Business and Economics An Optimal Random Projection k Nearest Neighbours Ensemble via Extended Neighbourhood Rule for Binary Classification

## Invited Talk Session 24: Modeling in Natural and Physical

#### **Sciences and Engineering**

Chair: Owen Ward

Jun 25 13:30-15:10 HC1315

Jeffrey Andrews, University of British Columbia, Okanagan A Binned and Truncated Mixture Modelling Approach for Raman Spectroscopy

Ann Smith, University of Huddersfield Data driven Engineering Control Systems

David Stenning, Simon Fraser University Multistage Astrostatistical Analyses

Vinky Wang, University of British Columbia Extending Hidden Markov Models for Rhythmicity

#### Invited Talk Session 25: High-Dimensional Data Analysis

Chair: Renny Doig

Jun 25 15:40-17:20 HC1315

*Elizabeth Chou, National Chengchi University, Taiwan* Improving Neural Network Performance with PCA-Based Dimensionality Reduction

Bahadir Yüzbaşı, Inonu University, Turkey Groupwise Feature Selection in High Dimensional Data

*Boyi Hu, Columbia University* **TPClust: Temporal Profile-Guided Disease Subtyping Using High-Dimensional Omics Data** 

Haiyi Shi, Simon Fraser University **The condition numbers of stochastic inverse problems** 

#### **Contributed Session 4: Wednesday**

Chair: Muye Nanshan

Jun 25 15:40-17:20 HC1325

Nathan Phelps, University of Western Ontario Platt's scaling for calibration after undersampling—limitations and how to address them

Jiatao Zhong, University of British Columbia, Okanagan Novel statistical methods for complex data analysis

Thomas Thangarajah, University of Waterloo Analyzing Team Performance in Professional Sports using Singular Value Decomposition (SVD)

Danny Santano, The University of British Columba, Okanagan Detecting Financial Market Crashes with Density Ratio Estimation: A Sliding Window Approach for Distribution Shift Analysis

Cristian Oliva Aviles, Genentech Inc. Tolerance Intervals for Unbalanced Linear Mixed Models

#### Invited Talk Session 26: Statistical Genetics, Disease, and

#### **Population Modeling**

Chair: Lloyd T. Elliott

Jun 25 15:40-17:20 HC1700 Labatt Hall

*Giseon Heo, University of Alberta* **An Application of Persistent Homology to Hidden Markov Models** 

Lin Zhang, Simon Fraser University **Allele-frequency estimation and ancestry informative marker identification via** 

*Yi Xiong, State University of New York at Buffalo* **Mitigating Bias in Analyzing Privacy-Preserved Survival Data** 

Jingxue Feng, Simon Fraser University

A Switching State-Space Transmission Model for Tracking Epidemics and Assessing Interventions