Tentative Program

Day 1: July 9, 2024

Opening Remarks: 8:50-9:00, July 9, 2024

Keynote Speak I: 9:00-10:00, July 9, 2024

Ian McKeague: Nonparametric methods for wearable device data

Break 10:00-10:15, July 9, 2024

Parallel Invited Sessions 1-4: 10:15-12:00, July 9, 2024

Invited Session 1: Joint Modeling of Complex Survival Data

Xingqiu Zhao: Deep Nonparametric Inference for Conditional Hazard Function

Liming Xiang: Multiple Imputation for Flexible Modelling of Interval-censored Data with Covariates Subject to Missingness and Detection Limits

Jun Ma: Joint modelling of longitudinal covariates and partly-interval censored survival data - a penalized likelihood approach

Xinyuan Song: Bayesian tree-based heterogeneous mediation analysis with a time-to-event outcome

Invited Session 2: Analysis of multi-dimensional correlated data

Annie Qu Optimal Individualized Treatment Rule for Combination Treatments under Budget Constraints

Michael Elliott Using variability in longitudinally-measured variables as a predictor of health outcomes

Ji Zhu A Latent Space Model for Hypergraphs with Diversity and Heterogeneous Popularity

Jian Kang Bayesian methods for brain-computer interfaces

Invited Session 3: Statistical Methods for Metagenomic Data

Hongzhe Li Transfer Learning with Random Coefficient Ridge Regression for Microbiome Applications

Hu, Jiyuan Joint Modeling of Longitudinal Microbiome Data and Survival outcome

Zhigang Li Estimating equations with inverse probability weighting for microbiome analysis

Gen Li Analysis of Microbiome Differential Abundance by Pooling Tobit Models

Invited Session 4: Flexible statistical learning for complex data

Eric Chi Sparse Single Index Models for Multivariate Responses

Ali Shojaie Learning causal effects of multiple covariates on multiple outcomes in high dimensions

Zhengyuan Zhu Maximizing Benefits under Harm Constraints: A Generalized Linear Contextual Bandit Approach

Xie, Yuying Clustering and visualization of single-cell RNA-seq data using path metrics

Lunch 12:00-1:00, July 9, 2024

Parallel Invited Sessions 5-8: 1:00-2:45, July 9, 2024

Invited Session 5: Analysis of data with multiple treatments and mixed outcomes

Emily Hector: Turning the data-integration dial: efficient inference from different data sources

Lan Luo: Efficient quantile covariate adjusted response adaptive experiments

Ling Zhou: High-dimensional subgroup learning for multiple mixed outcome

Liangyuan Hu: Estimating the causal effect of multiple intermittent treatments on censored survival outcomes

Invited Session 6: Precision Medicine and Survival Analysis

Danyu Lin: Evaluating Treatment Efficacy in Hospitalized Covid-19 Patients

Richard Cook: A New Joint Model for Recurrent and Terminal Events

Limin Peng: Dynamic regression of longitudinal trajectory features

Lei Liu: Deep Learning Models to Predict Primary Open-Angle Glaucoma

Invited Session 7: Analysis of multi-dimensional correlated data

Annie Qu: Optimal Individualized Treatment Rule for Combination Treatments under Budget Constraints

Michael Elliott: Using variability in longitudinally-measured variables as a predictor of health outcomes

Ji Zhu: A Latent Space Model for Hypergraphs with Diversity and Heterogeneous Popularity

Jian Kang: Bayesian methods for brain-computer interfaces

Invited Session 8: Recent Advances in Neuroimaging Analysis

Hernando Ombao: Overview of Functional Dependence in Brain Networks

Jaroslaw Harezlak: Novel penalized regression method applied to study the association of brain functional connectivity and alcohol drinking

Haoda Fu: LLM Is Not All You Need. Generative AI on Smooth Manifolds

Lexin Li: Kernel Ordinary Differential Equations

Break 2:45-3:00, July 9, 2024

Parallel Invited Sessions 9-12: 3:00-4:45, July 9, 2024

Invited Session 9: Advance Development and Application of Joint modeling

Ying Zhang: Semiparametric Inference for Misclassified Semi-Competing Risks Data under Gamma-Frailty Conditional Markov Model

Cheng Zheng: Investigating Multiple Causal Mechanisms with Multiple Mediators and Estimating Direct and Indirect Effects: A Joint Modeling Approach for Recurrent and Terminal Events

Ping Ma: Analyzing CITE-seq Data via a Quantum Algorithm

Danping Liu: Dynamic Risk Prediction for Cervical Precancer Screening with Continuous and Binary Longitudinal Biomarkers

Invited Session 10: Statistical and machine learning methods for data integration in biomedical research

Ying Guo: A Regularized Blind Source Separation Framework for Unveiling Hidden Sources of Brain Functional Connectome

Suprateek Kundu: Flexible Bayesian Product Mixture Models for Vector Autoregressions

Ming Wang: Enhancing Primary Outcome Analysis by Leveraging Information from Secondary

Outcomes

Ziyi Li: Accommodating time-varying heterogeneity in risk estimation under the Cox model: a transfer learning approach

Invited Session 11: Generalizability consideration in heterogeneous data

Jeremy Taylor: James-Stein approach for improving prediction of linear regression models by integrating external information from heterogeneous populations.

Lu Tian: Adaptive Prediction Strategy with Individualized Variable Selection

Menggang Yu: Entropy Balancing for Causal Generalization with Target Sample Summary Information

Ruth Pfeiffer: Accommodating population differences in model validation

Invited Session 12: Survival analysis and its applications

Gang Li: A Semiparametric Bayesian Instrumental Variable Analysis Method for Partly Interval-Censored Time-to-Event Outcome

Amita Manatunga: Noninvasive Monitoring for Anemia in Very Low Birth Weight Infants Using Smartphone Images

Yi Li: Multi-task Learning for Gaussian Graphical Regressions with High Dimensional Covariates

Yichuan Zhao: Weighted empirical likelihood inference for the difference between the areas under two correlated ROC curves with right-censored data

Break 4:45-5:00, July 9, 2024

Parallel Contributed Sessions 1-4: 5:00-6:00, July 9, 2024

Contributed Session 1: Applications of Machine Learning and Artificial Intelligence

Nicolò Biasetton. Advancing Consumer Understanding in Sustainable Product Development: exploring Novel

Methodologies Integrating Aspect-Based Sentiment Analysis and NLP

Elena Barzizza. A Framework for Automated Web Scraping and Sentiment Analysis of Product Reviews using ChatGPT

Alberto Molena. Predicting football match attendance and optimizing revenues using Machine Learning

Riccardo Ceccato. Choosing the optimal number of fuzzy clusters: a nonparametric approach

Contributed Session 2: Estimation and Inference with Complex Data Structures

Li-Hsiang Lin. High-Dimensional Multivariate Linear Regression with Weighted Nuclear Norm Regularization

Nilotpal Sanya. Boosting-Based Variable Selection for High-Dimensional Competing Risk Mixture Cure Models

Soham Bakshi. Selective Inference for Time-Varying Effect Moderation

Lan Xue. Partially functional linear quantile regression with measurement error

Contributed Session 3: Evaluating Treatment Effects with Heterogeneous Clinical Data

Youngjoo Cho. Estimation of heterogeneous treatment effects for competing risks data using random forests

Zhichen Xu. Subgroup Identification Based on Mixed Model for Repeated Measures for Alzheimer's Disease Trial

Ashwini Joshi. Statistical analysis of irregularly observed multiple outcomes of treatments in patients with age-related chronic diseases: Application to wet age-related macular degeneration (AMD)

S. Schoenen. The Impact of Allocation Bias on the Test Decisions in Clinical Trials with Multiple Endpoints

Contributed Session 4: Bayesian Statistics

Nanhua Zhang. Bayesian Dirichlet Regression for Correlated Compositional Outcomes with Application to an Experimental Sleep Study

David M. Hughes. Scalable Bayesian modelling of multivariate longitudinal data: A comparison of computational options

Javier Aguilar. Generalized Decomposition Priors on R2

Banquet/Junior Research Award: 6:00-8:00, July 9, 2024

Day 2: July 10, 2024

Parallel Invited Sessions 13-16: 9:00-10:45, July 10, 2024

Invited Session 13: Analysis of multi-outcomes and multi-source data

Xiaonan Xue: Jointly modeling of sleep variables that are objectively measured by wrist actigraphy

Yongzhao Shao: Assessing heterogeneous effects of biomarkers on multi-outcomes in a competing-risk survival analysis

Shanshan Ding: Nonconvex-regularized integrative sufficient dimension reduction for multi-source data

Yun Li: Impact of Unmeasured Confounding on Clustered Data Analyses

Invited Session 14: Recent Development of Statistical Methods for Complex Survival Data in Medical Studies

Wenqing He: Parametric and semiparametric estimation methods for survival data under a flexible class of models

Yanqing Sun: Regression analysis of semiparametric Cox-Aalen transformation models with partly interval-censored data

Chiung-Yu Huang: Improved semiparametric estimation of the proportional rate model with recurrent event data

Grace Yi: Estimation and Variable Selection under the Function-on-Scalar Linear Model with Covariate Measurement Error

Invited Session 15: Flexible statistical learning for complex data

Eric Chi: Sparse Single Index Models for Multivariate Responses

Ali Shojaie: Learning causal effects of multiple covariates on multiple outcomes in high dimensions

Zhengyuan Zhu: Maximizing Benefits under Harm Constraints: A Generalized Linear Contextual Bandit Approach

Xie, Yuying: Clustering and visualization of single-cell RNA-seq data using path metrics

Invited Session 16: The integration of high dimensional data in joint models

Pedro Miranda AFONSO: A fast approach to analyzing large datasets with joint models for longitudinal and time-to-event outcomes

Cecile Proust Lima: Analysis of multivariate longitudinal and survival data: what about random forests?

Denis Rustand: Efficient Inference for Joint Models of Multivariate Longitudinal and Survival Data Using INLAjoint

Manel Rakez: Evolution of breast density over time and its impact on breast cancer diagnosis during screening

Break 10:45-11:00, July 10, 2024

Parallel Invited Sessions 17-20: 11:00-12:45, July 10, 2024

Invited Session 17: Recent developments in Survival Analysis and Statistical Machine Learning

Xiaowu Dai: Kernel ordinary differential equations

Douglas Schaubel: Dynamic Risk Assessment by Landmark Modeling of the Restricted Mean Survival Time

Ying Lu: Using the Desirability of Outcome Ranking (DOOR) Approach to Construct Multicomponent Endpoints

Yuhua Zhu: Continuous-in-time Reinforcement Learning

Invited Session 18: New developments for analyzing EHR and other observational data

Hao Mei: Clinical Human Disease Networks with Healthcare Administrative Claims Data

Yuan Huang: Leveraging Deep Learning Approach for Estimation and Hypothesis Testing on Mediation Effects with High-dimensional Mediators and Complex Confounders

Shuangge Ma: Heterogeneous Network Analysis of Disease Clinical Treatment Measures via Mining Electronic Medical Record Data

Ai-Ling Hour: Few-shot learning of Tabular Medical Records with Large Language Models

Invited Session 19: Dependence Modeling

Damjana Kokol Bukovsek: Exact upper bound for bivariate copulas with a given diagonal section

Nik Stopar: Infima Aand Suprema of Multivariate Cumulative Distribution Functions

Jonathan Ansari: A model-free multi-output variable selection

Patrick Langthaler Quantifying and estimating dependence via sensitivity of conditional distributions

Invited Session 20: General topics in multi-outcome data

Xuewen Lu: Variable Selection in Joint Frailty Model of Recurrent and Terminal Events with Diverging Number of Covariates

Yingwei Paul Peng: Joint Analysis of Longitudinal Ordinal Categorical Item Response Data and Survival Times with Cure Fraction

Yuping Wang: Hierarchical variable clustering based on the predictive strength

Nicolas Dietrich: Revisiting the Williamson transform in the context of multivariate Archimedean copulas

Lunch 12:45-1:45, July 10, 2024

Parallel Invited Sessions 21-24: 1:45-3:30, July 10, 2024

Invited Session 21: Dynamic prediction

Hein Putter: Dynamic prediction with many biomarkers: combining landmarking 2.0 with multivariate Functional Principal Component Analysis

Dimitris Rizopoulos: Optimizing Dynamic Predictions from Joint Models Using Super Learning

Danilo Alvares: A two-stage approach for Bayesian joint modelling of competing risks and multiple longitudinal outcomes

Liang Li: Backward Joint Model for the Dynamic Prediction of Multivariate Longitudinal and Survival Outcomes

Invited Session 22: Multivariate and Complex Longitudinal Data

Geert Molenberghs: A Broad Framework for Likelihood Alternatives, in View of Small, Very Large, and Variable-Size Studies with Multivariate and/or Repeated Measures

Frank Konietschke: Statistical Planning and Evaluation of Translational Trials

Somnath Datta: Specialized Statistical Analyses of Iowa Fluoride Study Data

Kelly van Lancker: Ensuring valid inference for Cox hazard ratios after variable selection

Invited Session 23: Topics in Advanced Multi-outcome Data Analysis

Chong He: Bayesian Analysis of Multivariate One-Way ANOVA Model

Donglin Zeng: Fusing Individualized Treatment Rules Using Auxiliary Outcomes

Wang, Yuanjia: Mixed-Response State-Space Model for Analyzing Multi-Dimensional Digital Phenotypes

Haibo Zhou: Semiparametric regression analysis of case-cohort studies with multiple interval-censored disease outcomes

Invited Session 24: Extreme value analysis

Daniela Castro-Camilo: A Bayesian multivariate extreme value mixture model

Sebastian Engelke: Machine learning beyond the data range: an extreme value perspective

Tiandong Wang: Testing for Strong VS Full Dependence

Chen Zhou: Tail copula estimation for heteroscedastic extremes

Break 3:30-3:45, July 10, 2024

Parallel Contributed Sessions 5-8: 3:45-4:45, July 10, 2024

Contributed Session 5: Survival Analysis in Practice

Dung-Tsa Chen. How adverse events data in cancer clinical trial could be utilized by statistical methods as a potential biomarker in predicting clinical outcomes

Peyton Smith. Improving Polygenic Risk Scores for Alzheimer's Disease

Merle Munko. Surviving the multiple testing problem: RMST-based tests in general factorial designs

Contributed Session 6: Nonparametric Methods and Asymptotics

Jonas Beck. Combining Stochastic Tendency and Distribution Overlap Towards Improved Nonparametric Effect Measures and Inference

Lukas Mödl. Wild Bootstrapping the (asymptotic) Joint Distribution of Wilcoxon-Mann-Whitney Test Statistics

Kristen Miller. Application of Bayesian non-parametric modeling to longitudinal seizure data

Olivier Wintenberger. On the asymptotics of extremal blocks cluster inference

Contributed Session 7: Multiple Outcome Analysis

Taban Baghfalaki. Dynamic Prediction through Joint Modeling of Longitudinal Markers and Time-to-Event Data: A new Bayesian Two-Stage Approach

Tiphaine Saulnier. Joint analysis of disease progression markers and death using individual temporal recalibration

L. Courcoul. A flexible location-scale joint model to study the effect of blood pressure variability on competing events

H. Vermeulen. Analysis of proliferation assay data for immunomonitoring: A bivariate modelling approach

Contributed Session 8: Applied Bayesian Analysis

Sangita Kulathinal. Bayesian Hidden Markov Model for Natural History of Colorectal Cancer: Handling Misclassified Observations, Varying Observation Schemes and Unobserved Data

Daniel J Phillips. Multiple imputation for joint modelling of COVID-19 antibody decay and risk of infection

Weining Shen. Bayesian biclustering and its application in education data analysis

Break 4:45-5:00, July 10, 2024

Keynote Speak II: 5:00-6:00, July 10, 2024

Markus Pauly: Loosing sight of the forest for the trees? On theoretical and numerical results for Random-Forest-type methods

Closing Remarks: 6:00-6:10. July 10, 2024