2023 IMS International Conference on Statistics and Data Science (ICSDS)

December 18th, 2023

2023/12/18 9:00am to 10:30am	**Parallel Sessions**
Bayesian Computation and Modelling Organizer: Radu Craiu Chair: Radu Craiu Room: S8- Glicínia Quartin	**Audrey Beliveau** (University of Waterloo) Bayesian Plant-Capture Methods for Estimating Population Size from Uncertain Plant Captures **Brunero Liseo** (Sapienza Università di Roma) Fast and accurate Bayesian inference for logistic regression **Dennis Prangle** (University of Bristol) Transport ABC: improving the efficiency of ABC SMC using normalizing flows **Boris Babic** (University of Toronto and University of Hong Kong) The Cost of Data Bias: A Model of the Diminishing Value of Noisy Information
Inference for Machine Learning Interpretations Organizer: Genevera Allen Chair: Pierre Bellec Room: S13 -Amália Rodrigues	**Lucas Janson** (Harvard University) Floodgate: A Swiss Army Knife for Regression Inference **Lucy Gao** (University of British Columbia) Validation and inference for unsupervised models in single-cell RNA-sequencing data **Brian Williamson** (Kaiser Permanente Washington Health Research Institute) Inference for model-agnostic longitudinal variable importance **Genevera Allen** (Rice University) Model-Agnostic Confidence Intervals for Feature Importance: A Fast and Powerful Approach Using Minipatch Ensembles
Statistical machine learning and extremes Organizer: Elena Di Bernardino Chair: Elena Di Bernardino Room: S16- Vianna da Motta	**Gloria Buritica** (Université de Génève) Extrapolation Trees for domain generalization **Emmanuel Gobet** (Ecole Polytechnique) Generative modeling of extremes with neural networks **Stephan Clémençon** (Télécom Paris) Concentration Properties of the Empirical Angular Measure with Applications to the Generalisation Capacity of Machine Learning in Extreme Regions **Gwladys TOULEMONDE** (Université de Montpellier) High-dimensional clustering of compound precipitation and wind extremes over Europe
Privacy in Practice Organizer: ICSDS Chair: Ankit Pensia Room: S14- Lopes-Graça	**Aleksandra Slavkovic** (Penn State University) Valid statistical inference with privacy constraints **Jeremy Seeman** (University of Michigan) Private Treatment Assignment for Causal Experiments **Weijie Su** (University of Pennsylvania) Enhancing Privacy Guarantees in Census Data via Gaussian Differential Privacy: A 10 Percent Improvement for Free **Anand Vidyashankar** (George Mason University) Assessing Privacy and Security Risk via Composite Metrics
Recent Advancements in Network and Tensor Learning Organizer: Junhui Wang Chair: Mladen Kolar Room: S9- Maria Helena Vieira da Silva	**George Michailidis** (UCLA) Multiple change Point Detection in High Dimensional Low Rank Models **Anru Zhang** (Duke University) Tensor Learning in 2020s: Methodology, Theory, and Applications **Min Xu** (Rutgers University) Root and community inference on the latent growth process of a network **Junhui Wang** (Chinese University of Hong Kong) Adaptive Merging and Efficient Estimation in Longitudinal Networks
Statistics for distributional data and random objects Organizer: Helle Sørensen Chair: Helle Sørensen Room: S10- Amadeo de Souza-Cardoso	**Yaqing Chen** (Rutgers University) Geometric Exploration of Random Objects Through Optimal Transport **Chao Zhang** (Bloomberg L.P.) Wasserstein Autoregressive Models for Density Time Series **Victor Panaretos** (EPFL) Distributional Regression and Autoregression by Mass Transportation
Dimension Reduction and Causality in High Dimensional Models Organizer: Hernando Ombao Chair: Hernando Ombao Room: Small Auditorium	**Samuel Horvath** (?) Detecting Granger Causality with Neural Networks **Richard Davis** (Columbia University) Clustering Multivariate Time Series Using Energy Distance **Eduardo García-Portugués** (Carlos III University of Madrid) Hippocampus shape analysis via skeletal models and kernel smoothing **Chee-Ming Ting** (Monash University Malaysia) Low-rank and sparse decomposition for brain functional connectivity in naturalistic fMRI data

Contributed Session 1: Advances in Optimization, Optimal Transport, Fairness and Privacy Organizer: ICSDS Chair: Teresa Oliveira Room: S15- Carlos Paredes	**Walter Zhang** (University of Chicago Booth School of Business) Coarse Personalization **Francesca Panero** (London School of Economics and Political Science) Achieving fairness with a simple ridge penalty **Bonwoo Lee** (KAIST) Minimax Risks and Optimal Procedures for Estimation under Functional Local Differential Privacy **Johannes Wiesel** (Carnegie Mellon University) Martingale Testing with the Smoothed Bicausal Wasserstein Distance **Shayan Hundrieser** (University of Göttingen) A Unifying Approach to Distributional Limits for Empirical Optimal Transport **Kasper Bagmark** (Chalmers, Mathematical Sciences, Gothenburg) An energy-based deep splitting method for the nonlinear filtering problem **Kabir Verchand** (University of Cambridge) Sharp global convergence guarantees for iterative nonconvex optimization with random data **Evan Sidrow** (University of British Columbia) Variance-Reduced Stochastic Optimization for Efficient Inference of Hidden Markov Models **Rui-Ray Zhang** (Barcelona School of Economics) Generalization bounds for learning under graph-dependence **Parnian Kassraie** (ETH Zurich) Model Selection for Sequential Inference and Optimization **Zhixiang Zhang** (University of Macau) A Framework for Statistical Inference via Randomized Algorithms
2023/12/18 10:30am to 11:00am	**Coffee Break**
2023/12/18 11:00am to 12:00pm Room: Small Auditorium	**Plenary Talk: Michael Jordan** (University of California, Berkeley) Statistical Inference, Asymmetry of Information, and Statistical Contract Theory
2023/12/18 12:00pm to 1:10pm	**Lunch Break**
2023/12/18 1:10pm to 2:40pm	**Parallel Sessions**
New Developments in Biostatistics and Data Science Organizer: Giovani Silva /Lisete Sousa Chair: Lisete Sousa Room: S13 -Amália Rodrigues	**Hernando Ombao** (KAUST) Statistical tools for exploring dependence in multivariate time series **Klaus Langohr** (Universitat Politècnica de Catalunya) Regression models with interval-censored covariates **Marília Antunes** (CEAUL, University of Lisbon) Combining classification algorithms with pre-and post-processing techniques to handle imbalanced data for an accurate screening of familial hypercholesterolemia **Luis Carvalho** (Boston University) Deviance Matrix Factorization
Modern statistical inference Organizer: Richard Samworth Chair: Richard Samworth Room: Small Auditorium	**Pierre C Bellec** (Rutgers University) Observable adjustments and confidence intervals in high-dimensional M-estimation **Yingying Fan** (University of Southern California) Robust Knockoffs Inference with Coupling **Rajen Shah** (University of Cambridge) Rank-transformed subsampling: Inference for multiple data splitting and exchangeable p-values **Yihong Wu** (Yale University) Empirical Bayes estimation: When does g-modeling beat f-modeling in theory (and in practice)?
Recent advances in survival analysis Organizer: Jialiang Li Chair: Jiwei Zhao Room: S10- Amadeo de Souza-Cardoso	**Chiung-Yu Huang** (University of California at San Francisco) Leveraging information from external sources in semiparametric M-estimation under population heterogeneity **Ingrid Van Keilegom** (KU Leuven) Copula based Cox proportional hazards model for dependent censoring **Limin Peng** (Emory University) Nonparametric testing for survival data with time-dependent covariates **Inyoung Kim** (Virginia Tech) Semiparametric Variable Selection in Kernel Machine Survival Model
Spatial data science Organizer: Phillip Otto / Isa Marques Chair: Isa Marques Room: S16- Vianna da Motta	**Paul Wiemann** (University of Wisconsin–Madison) Extending scalable Bayesian transport maps to multivariate non-Gaussian spatial fields with increased flexibility in the conditional responses **Andrea Gilardi** (Politecnico di Milano) Measurement Error Models for Spatial Network Lattice Data: Analysis of Car Crashes in Leeds **Isa Marques** (University of Glasgow) Navigating Spatial Confounding in a Bayesian Framework: Approaches, Assessment, and Practical Recommendations for Researchers **Greta Panunzi** (Sapienza) A new species distribution modelling approach for integrating biased citizen science data
SPE session: New Methodologies for Classic and Modern Statistical Problems Organizer: Tiago Marques Chair: Tiago Marques Room: S8- Glicínia Quartin	**Soraia Pereira** (CEAUL and FCUL, University of Lisbon) Geostatistical mixture models to deal with both extra zeros and extreme values: an example with sardine eggs in Portugal **Ivo Sousa-Ferreira** (DM, FCEE, UMa and CEAUL) Recurrent event analysis: basic concepts and some recent contributions **Vanda Inacio** (University of Edinburgh) The underlap coefficient: the concept and its need, its covariate extension, and Bayesian estimators **M. Rosario Oliveira** (CEMAT and Dep Mathematics, Instituto Superior Técnico, ULisboa, Portugal) RM-SMOTE: A new robust balancing technique

New Insights in Causal Inference Organizer: ICSDS Chair: Matteo Bonvini Room: S9- Maria Helena Vieira da Silva	**Matias Cattaneo** (Princeton University) On the Pointwise Behavior of Recursive Partitioning and Its Implications for Heterogeneous Causal Effect Estimation **William Rosenberger** (George Mason University) Randomization Tests and Causal Inference for Randomized Clinical Trials **Ruoqing Zhu** (University of Illinois Urbana-Champaign) Policy Learning with Continuous Actions Under Unmeasured Confounding **Thomas Richardson** (University of Washington) Generalizing Conditional Independence: Nested Markov Models
New approaches for analyzing high and infinite dimensional data Organizer: Pauliina Ilmonen Chair: Pauliina Ilmonen Room: S14- Lopes-Graça	**Sami Helander** (Aalto University) Integrated shape-sensitive functional metrics: Extensions to Hausdorff and Fréchet distances and more **Lauri Viitasaari** (Uppsala University) Non-parametric estimation of diffusion coefficient function in certain SPDE-systems **Marko Voutilainen** (University of Turku) On Lamperti transformation and characterizations of discrete random fields **Raazesh Sainudiin** (Uppsala University) Terabyte-scale nonparametric density estimation for typicality detection, conditional density regression and discrimination with universal performance guarantees
Contributed Session 2: Causal Inference Organizer: ICSDS Chair: Lucas Janson Room: S15- Carlos Paredes	**Asger Morville** (Seoul National University) Nonparametric Causal Additive Models with Smooth Backfitting **David Strieder** (Technical University of Munich) Confidence in Causal Inference under Structure Uncertainty **Pan Zhao** (Inria / Université de Montpellier) A Semiparametric Instrumented Difference-in-Differences Approach to Policy Learning **Kai Teh** (UCL) A general framework for causal learning algorithms **Zhaoyan Song** (University of Florida) Natural Experiment in Time Series with Bipartite Interference and Random Network **Martina Scauda** (University of Cambridge) A latent causal inference framework for ordinal variables **Elena Dal Torrione** (University of Rome Tor Vergata) Regression Discontinuity Designs Under Interference **Jeffrey Naf** (Inria) Causal-DRF: Conditional Kernel Treatment Effect using Distributional Random Forest **Xinwei Shen** (ETH Zürich) Causality-oriented robustness: exploiting general additive interventions **Gary Hettinger** (University of Pennsylvania) Multiply Robust Estimation of Heterogeneous Direct and Indirect Policy Exposures **Riddhiman Saha** (Harvard University) Harmonized Estimation of Subgroup-Specific Treatment Effects in Randomized Trials: The Use of External Control Data **Jieru Shi** (Cambridge University) A Meta-Learning Method for Estimation of Causal Excursion Effects to Assess Time-Varying Moderation **Myrto Limnios** (University of Copenhagen) Nonparametric Modeling and Sparse Recovery of Event Processes with Applications to Conditional Local Independence Testing **Xinzhu Yu** (The University of Manchester) Exploring the causal role of the immune response to varicella-zoster virus on multiple traits: a phenome-wide Mendelian randomization study **Xiaoyu Liu** (Jinan University) Bayesian Analysis of Doubly Semiparametric Mixture Cure Models with Interval-censored Data
2023/12/18 2:40pm to 3:00pm	**Coffee Break**
2023/12/18 3:00pm to 4:30pm	**Parallel Sessions**
Statistical modeling in computational biology and bioinformatics Organizer: Rebecka Jörnsten Chair: Rebecka Jörnsten Room: S10- Amadeo de Souza-Cardoso	**Sunduz Keles** (University of Wisconsin - Madison) High dimensional tensor methods for multi-modal single cell genomics data **Mika Gustafsson** (?) Learning functional auto-encoders for representing large-scale omics to monitor disease risk **Sven Nelander** (Uppsala University) Reconstructing the gene regulatory programs underlying the phenotypic plasticity of neural cancers **Paul Kirk** (University of Cambridge) Bayesian mixture models for large scale EHR datasets
Spatial Statistics Organizer: Soraia Pereira Chair: Soraia Pereira Room: S8- Glicínia Quartin	**Rasmus Waagepetersen** (Aalborg University) Composite likelihood inference for space-time point processes **Janine Illian** (?) Complex spatio-temporal modelling in practice – working and communicating with users **Raquel Menezes** (CMAT/CEAUL, Minho University) Spatio-temporal modelling of fish species distribution **Ruiman Zhong** (King Abdullah University of Science and Technology) Spatial data fusion adjusting for preferential sampling using INLA and SPDE
Nonparametric Empirical Bayes Organizer: Roger Koenker Chair: Roger Koenker Room: S14- Lopes-Graça	**Cun-Hui Zhang** (Rutgers University) Large Contingency Tables **Bodhisattva Sen** (Columbia University) A Mean Field Approach to Empirical Bayes Estimation in High-dimensional Linear Regression **Sihai Zhao** (University of Illinois Urbana-Champaign) Strategies for high-dimensional empirical Bayes problems **Asaf Weinstein** (Hebrew University of Jerusalem) On the Attainable Statistical Error in Permutation Invariant Problems

Recent advances in model-based clustering Organizer: Ivy Liu Chair: Lily Wang Room: S16- Vianna da Motta	**Daniel Fernández** (UPC) Likelihood-based finite mixture models for ordinal data **Louise McMillan** (Victoria University of Wellington) R packages: Clustering categorical data using likelihood-based methods **Ivy Liu** (Victoria University of Wellington) Semi-supervised clustering for ordered categorical data **Nathakhun Wiroonsri** (King Mongkut's University of Technology Thonburi) Clustering performance analysis using a new correlation-based cluster validity index with an R package
The Optimal Transportation Problem Organizer: Juan Cuesta Albertos / Eustasio del Barrio Chair: Bodhisattva Sen Room: S13 -Amália Rodrigues	**Marco Cuturi** (?) On Structured Monge Maps **Eustasio del Barrio** (Universidad de Valladolid) Nonparametric measure-transportation-based multiple-output quantile regression **Gonzalo Mena** (CMU) On model based clustering with entropic optimal transport **Axel Munk** (Georg-August-Universität Göttingen Institut für Mathematische Stochastik) Statistical optimal transport in action: Colocalization analysis in cell biology
Inference Problems in Machine Learning Organizer: ICSDS Chair: Zhimei Ren Room: Small Auditorium	**Sylvain Arlot** (Université Paris-Saclay and INRIA) One-Shot Federated Conformal Prediction **Jianqing Fan** (Princeton University) UTOPIA: Universally Trainable Optimal Prediction Intervals Aggregation **Cynthia Rush** (Columbia University) The out-of-sample prediction error of the square-root lasso and related estimators **Zijian Guo** (Rutgers) Statistical Inference for Maximin Effects: Identifying Stable Associations across Multiple Studies
Decision Trees and Classification Organizer: ICSDS Chair: Ji Zhu Room: S9- Maria Helena Vieira da Silva	**Tiffany Tang** (University of Michigan) MDI+: A Flexible Random Forest-Based Feature Importance Framework **Peter Rousseeuw** (KU Leuven) Fast Linear Model Trees by PILOT **Jelena Bradic** (UC San Diego) Dynamic Split Random Forest **Sijian Wang** (Rutgers University) Adaptive class embedding for classification with a large number of classes
Contributed Session 3: Spatial, Network, and Clustering analysis Organizer: ICSDS Chair: Dan Yang Room: S15- Carlos Paredes	**Alvaro Sanchez** (Aix-Marseille University) Clustering approaches for mixed-type data: A comparative study **Regina Bispo** (FCT NOVA) Using spatial point process models to define confidence service facilities sitting regions **Ghulam Qadir** (?) Deep Learning for Spatial Statistics **Leo Suchan** (Georg-August-Universität Göttingen) A scalable clustering algorithm to approximate graph cuts **Daumilas Ardickas** (Vilnius University) On the connectivity of community affiliation graph **Anirban Nath** (Columbia University) Concentration of Aggregated Adjacency and Laplacian Matrices for Lazy Network-Valued Stochastic Processes with Applications **Sagnik Nandy** (University of Pennsylvania) Degree Heterogeneity in Higher-Order Networks: Inference in the Hypergraph $mathbf{beta}$-Model **Arthur Verdeyme** (EPFL-SB-MATH-SDS) Hybrid of node and link communities for graphon estimation
2023/12/18 4:30pm to 4:50pm	**Coffee Break**
2023/12/18 4:50pm to 6:20pm	**Parallel Sessions**
Recent advances in complex data analysis Organizer: Jinyuan Chang Chair: Cynthia Rush Room: S10- Amadeo de Souza-Cardoso	**Jiaying Gu** (University of Toronto) Group Structure Estimation for Panel Data - A General Approach **Linxi Liu** (University of Pittsburgh) Convergence rates for density trees and forests **Han Xiao** (Rutgers University) Matrix denoising and completion based on Kronecker product approximation **Jinyuan Chang** (Southwestern University of Finance and Economics) Testing independence and conditional independence in high dimensions
Privacy and robustness Organizer: Po-Ling Loh Chair: Aleksandra Slavkovic Room: S14- Lopes-Graça	**Po-Ling Loh** (University of Cambridge) Differentially private penalized M-estimation via noisy optimization **Sewoong Oh** (University of Washington) Optimal private regression **Ankit Pensia** (IBM Research) Simple binary hypothesis testing: Locally-private and communication-efficient **Sivaraman Balakrishnan** (Carnegie Mellon University) Robust Functional Estimation: Structure-Agnosticity and Contamination-Resilience

Statistical and machine learning developments in physics and astronomy Organizer: Susana Eyheramendy Chair: Susana Eyheramendy Room: S9- Maria Helena Vieira da Silva	**Pablo Estevez** (University of Chile / Millennium Institute of Astrophysics MAS) Empowering Astronomy through Transformers: Time Series Classification and Text-to-SQL Challenges **Wilfredo Palma** (Millennium Institute of Astrophysics MAS) Statistical modelling of irregularly observed astronomical time series **David van Dyck** (Imperial College London) Data-Driven Strong Lensing Science in the Era of Large Sky Surveys **Lily Wang** (George Mason University) Distributed Heterogeneity Learning from Big Spatial Data
Challenges for spatial and spatio-temporal data analysis Organizer: Chae Young Lim Chair: Chae Young Lim Room: S8- Glicínia Quartin	**Debashis Mondal** (Washington University in St Louis) Matrix–free conditional simulations in spatial statistics **Jaewoo Park** (Yonsei University) A Spatio-Temporal Dirichlet Process Mixture Model for Coronavirus Disease-19 **Junho Yang** (Academia Sinica) Fourier analysis of spatial point processes **Ying Sun** (KAUST) Spatio-temporal DeepKriging for Interpolation and Probabilistic Forecasting
Cross-fertilization between Machine Learning and Statistics: Borrowing and Donating Organizer: Saharon Rosset Chair: Saharon Rosset Room: Small Auditorium	**Yaniv Romano** (Technion) ML-Powered Outlier Detection: False Discovery Rate Control and Derandomization **Matteo Sesia** (University of Southern California) Adaptive conformal classification with noisy labels **Louis Abraham** (Université Paris 1 Panthéon-Sorbonne) LassoNet: feature selection for neural networks **Ji Zhu** (University of Michigan) Network Community Detection Using Higher-Order Structures
Causal Discovery Organizer: ICSDS Chair: Thomas Richardson Room: S13 -Amália Rodrigues	**Rocio Titiunik** (Princeton University) Uncertainty Quantification in Synthetic Controls with Staggered Treatment Adoption **Mladen Kolar** (USC and UChicago) Confidence Sets for Causal Orderings **Yubai Yuan** (The Pennsylvania State University) De-confounding causal inference using latent multiple-mediator pathways **Mario Figueiredo** (Instituto de Telecomunicações, IST, ULisboa) Telling cause from effect with categorical variables
Inference in Data Science Organizer: ICSDS Chair: Efstathia Bura Room: S16- Vianna da Motta	**Wenhan Hwang** (National Tsing Hua University) Counting the unseen: Estimation of susceptibility proportions in zero-inflated models using a conditional likelihood approach **Jiwei Zhao** (University of Wisconsin Madison) ELSA: Efficient Label Shift Adaptation through the Lens of Semiparametric Models **Armin Schwartzman** (University of California, San Diego) An Empirical Exploration of the Law of Large Numbers **Minge Xie** (Rutgers University) Exact Inference for Common Odds Ratio in Meta-Analysis with Zero-Total-Event Studies
Contributed Session 4: Statistical Applications Organizer: ICSDS Chair: Tiago Marques Room: S15- Carlos Paredes	**Saurabh Khanna** (University of Oxford) Knowing Unknowns in an Age of Incomplete Information **Francesco Giordano** (HEC Paris) A note on Social Learning in nonatomic Routing Games **Abdel-Salam G. Abdel-Salam** (?) Data Mining in Higher Education Institutions and Future Directions **Elizabeth Stojanovski** (University of Newcastle) Longitudinal Structural Equation Modelling Assessment of Factors influencing Learning Mathematics in a Bayesian Framework **Mikkel Meyer Andersen** (Aalborg University) Symbolic Mathematics in R for Statistics and Data Science **André Brito** (NOVA MATH) Temperature-Mortality Association: Portuguese Extreme Weather Event Early Warning System **Porntip Dechpichai** (King Mongkut's University of Technology Thonburi) Imputation of Missing Daily Rainfall Data; A Comparison Between Artificial Intelligence and Statistical Techniques **Mafalda Ferreira** (NOVA MATH) On the use of graph theory and machine learning algorithms in anti-money laudering systems **Nuno Almeida** (CINAMIL and CIPER) Metabolic cost of load carriage in a Portuguese Army special forces team: A non-parametric approach **Paula Simões** (CINAMIL and CMA-FCT-UNL) Analysing the weight carried by a soldier, according to his function, for the development of exoskeletons **Angkool Wangwongchai** (King Mongkut's University of Technology Thonburi, Thon Buri) Incorporating Novel Input Variable Selection for Improved Precipitation Forecasting in the Different Water Basins of Thailand **Usa Humphries** (King Mongkut's University of Technology Thonburi) Machine Learning-Based Modeling of Spatio-Temporally Varying Responses of Coffee Production to Climate Change: A Case Study of the Northern Region of Thailand

END OF DAY

December 19th, 2023

2023/12/19 9:00am to 10:30am	**Parallel Sessions**
Flexible inference for complex data Organizer: Yingying Fan Chair: Ming Yuan Room: Small Auditorium	**Jason Klusowski** (Princeton University) Error Reduction from Stacking Regressions **Richard Samworth** (University of Cambridge) Isotonic Subgroup Selection **Paromita Dubey** (University of Southern California) Two Sample Inference for Object Data using Depth Profiles **Jinchi Lv** (University of Southern California) High-Dimensional Knockoffs Inference for Time Series Data
Clustering and approximations Organizer: ICSDS Chair: Juan Cuesta-Albertos Room: S16- Vianna da Motta	**Marianthi Markatou** (University at Buffalo) Poisson Kernel-Based Clustering on the d-dimensional Sphere: Convergence Properties, Identifiability and Methods of Sampling **Cheng Yong Tang** (Temple University) A new p-value based multiple testing procedure with arbitrary dependence for generalized linear models **Thomas Laloë** (Université de Nice côte d'azur - LJAD) Quantization based clustering: An iterative approach **Yufeng Liu** (University of North Carolina at Chapel Hill) Statistical Significance of Clustering for High Dimensional Data
Selective Inference Organizer: ICSDS Chair: Mona Azadkia Room: S14- Lopes-Graça	**Eugene Katsevich** (University of Pennsylvania) Reconciling model-X and doubly robust approaches to conditional independence testing **Snigdha Panigrahi** (University of Michigan) Selective inference using randomized group lasso estimators for general models **Yoav Benjamini** (Tel Aviv University) Addressing selective inference **Zhimei Ren** (University of Pennsylvania) Policy learning "without" overlap: Pessimism and generalized empirical Bernstein's inequality
Advances in Bayesian methods for computation in complex models Organizer: Howard Bondell Chair: Radu Craiu Room: S13 -Amália Rodrigues	**Howard Bondell** (University of Melbourne) Bayesian Empirical Likelihood Inference for Estimating Equations **Brian Reich** (North Carolina State University) Bayesian Computational Methods for Spatial Models with Intractable Likelihoods **Wesley Johnson** (UC Irvine) Approximate Inferences for Bayesian Hierarchical Non-linear Regression Models **Stefano Favaro** (University of Torino and Collegio Carlo Alberto) Bayesian Nonparametric Cardinality Recovery
Assessing causal effects in complex settings: interference, competing events, time series Organizer: Fabrizia Mealli Chair: Fabrizia Mealli Room: S10- Amadeo de Souza-Cardoso	**Corwin Zigler** (University of Texas at Austin) Bayesian Causal Inference with Uncertain Physical Process Interference **Alessandra Mattei** (University of Florence) Evaluating causal effects on time-to-event outcomes in an RCT in Oncology with treatment discontinuation due to adverse events **Laura Forastiere** (Yale University) Estimating heterogenous spillover effects on network neighbors to identify influential and susceptible individuals **Fan Li** (Duke University) Covariate adjustment in randomized experiments with missing outcomes and covariates
Spatial Statistics Organizer: ICSDS Chair: Michael Stein Room: S9- Maria Helena Vieira da Silva	**Mikael Kuusela** (Carnegie Mellon University) Neural Likelihood Surface Estimation for Intractable Spatial Models **Marc Genton** (KAUST) Test and Visualization of Covariance Properties for Multivariate Spatio-Temporal Random Fields **Huixia Wang** (The George Washington University) Probabilistic prediction for spatial processes through deep learning **Taps Maiti** (Michigan State University) Variational Inference Aided Variable Selection For Spatially Structured High Dimensional Covariates
Inference in Biostatistics Organizer: ICSDS Chair: Giovani Silva Room: S8- Glicínia Quartin	**Xihong Lin** (Harvard T.H. Chan School of Public Health) Ensemble methods for testing a global null **Sunil Mathur** (Houston Methodist Research Institute) Testing of Hypotheses in Cancer Research: A Ranked Set Approach for Achieving Higher Efficiency **Xinyuan Song** (The Chinese University of Hong Kong) A Tree-based Bayesian Accelerated Failure Time Cure Model for Estimating Heterogeneous Treatment Effect **Hua Tang** (Stanford University) Design and Analysis of Quantitative Mass-Spectrometry Proteomics Experiments

Contributed session 5: Statistics in Healthcare Organizer: ICSDS Chair: Eun-Young Mun Room: S15- Carlos Paredes	**Mats Stensrud** (EPFL) Causal effects of intervening variables in settings with unmeasured confounding **Alejandra Avalos-Pacheco** (TU Wien) Almost infinite sites model **Carlos Brás-Geraldes** (ISEL/CEAUL) Improving Diagnostic Models for Temporomandibular Disease Using Cost-Effective Variables: An Analysis of the Dimitroulis Classification **Yiqiang Zhao** (Carleton University) A Frequentist Approach to Individual-Level Models for Modelling Epidemics **Xinming An** (UNC-Chapel Hill) Exploratory Hidden Markov Factor Models for Longitudinal Mobile Health Data: Application to Adverse Posttraumatic Neuropsychiatric Sequelae **Ben Seiyon Lee** (George Mason University) Statistical Considerations in Identifying Biomarkers for Diagnosing Myofascial Pain Syndrome **Andrew Koval** (Rice University) Estimation of timing of past events in cancer based on DNA sequencing data **Marian Petrica** (Gheorghe Mihoc - Caius Iacob Institute of Mathematical Statistics and Applied Mathematics) Inverse problem for parameters identification in a modified SIRD epidemic model using ensemble neural networks **Vincent Wieland** (University of Bonn) Joined stochastic models for the evaluation of cancer progression from clinical data. **Naomi Diz Rosales** (Facultade de Informática - Universidade da Coruña) Improved estimation and prediction of COVID-19 patient-occupied intensive care unit beds with random regression coefficient Poisson models **José Pereira** (CEAUL) Assessing Dental Symmetry: Introduction of the Symmetry Measure Score (SMS) in Periodontal Disease Analysis **João Onofre** (FMDUP) Cotinine: Exploring the Impact of Smoking Habits on Periodontal Disease **Jingjing Zou** (?) Exploring Encoder-Decoder Frameworks for Learning Latent Representations of High-Frequency Wearable Device Data
2023/12/19 11:00am to 12:00pm Room: Small Auditorium	**Plenary Talk: David Donoho** (Stanford University) Data Science at the Singularity
2023/12/19 12:00pm to 1:10pm	**Lunch Break**
2023/12/19 1:10pm to 2:40pm	**Parallel Sessions**
New Developments in Statistical Methods & Applications Organizer: Yin Xia Chair: Richard Samworth Room: Small Auditorium	**Tony Cai** (University of Pennsylvania) Optimal distributed differentially private learning **Hongzhe Li** (University of Pennsylvania) Transfer learning with applications in genomics **Ming Yuan** (Columbia University) On the multiway PCA **Lexin Li** (University of California, Berkeley) Statistical Inference using Deep Learning Tools
Advances in missing values Organizer: Julie Josse Chair: Julie Josse Room: S10- Amadeo de Souza-Cardoso	**Razieh Nabi** (Emory University) Causal Graphical Methods for Handling Missing-Not-At-Random Mechanisms **Malgorzata Bogdan** (Lund University) missKnockoff: Controlled Variable Selection with Missing Values **Erwan Scornet** (Sorbonne Université) Naive imputation regularizes high-dimensional linear models **Elizabeth Ogburn** (Johns Hopkins University) Missing data with causal and statistical dependence
Time-series analysis Organizer: ICSDS Chair: George Michailidis Room: S13 -Amália Rodrigues	**Qiwei Yao** (London School of Economics) Autoregressive networks and some stylized features of network data **Scott Bruce** (Texas A&M University) Interpretable Classification of Categorical Time Series Using the Spectral Envelope and Optimal Scalings **Xiaowu Dai** (UCLA) An ODE Model for Dynamic Matching in Heterogeneous Networks **Yuichi Goto** (Kyushu University) Test for the existence of the residual spectrum with application to brain functional connectivity detection
Point Data, Dissimilarity and Set Estimation Organizer: Pamela Llop Chair: Wolfgang Polonik Room: S8- Glicínia Quartin	**Sayan Mukherjee** (University of Leipzig, Max Planck Institute for Mathematics in the Sciences, Duke University) Modeling Shapes and Surfaces **Beatriz Pateiro-López** (Universidade de Santiago de Compostela) Statistical analysis of non-convexity measures **Gabriel Martos Venturini** (Universidad Torcuato Di Tella) Uncovering Regions of Maximum Dissimilarity on Random Process Data **María José Llop** (Universidad Nacional del Litoral) Estimation for the Partially Linear ZIP Regression Model: A Robust Proposal
Random projections in statistics Organizer: Ricardo Fraiman Chair: Cheng Yong Tang Room: S9- Maria Helena Vieira da Silva	**Juan Cuesta-Albertos** (Universidad de Cantabria) An introduction and application of the random projection method **Ilmun Kim** (YONSEI UNIVERSITY) Statistical Inference via Sample Splitting **Leonardo Moreno** (Universidad de la República) A quantitative Heppes Theorem and multivariate Bernoulli distributions **Ricardo Fraiman** (Universidad de la República) A Cramer-Wald theorem for elliptical distributions

Monte Carlo and Quantum Methods Organizer: ICSDS Chair: Eric Laber Room: S14- Lopes-Graça	**Yazhen Wang** (University of Wisconsin-Madison) Quantum Machine Learning **Guanyang Wang** (Rutgers University) Optimal (?) Monte Carlo Methods for Nested Structural Problems **Matteo Ruggiero** (University of Torino and Collegio Carlo Alberto) Approximate filtering via discrete dual processes **Lan Xue** (Oregon State University) Using Auxiliary Information in Probability Survey Data to Improve Pseudo-Weighting in Non-Probability Samples: A Copula Model Approach
Survival Analysis and Healthcare Applications Organizer: ICSDS Chair: Edsel Pena Room: S16- Vianna da Motta	**Jian-Jian Ren** (University of Maryland, College Park) Empirical Likelihood MLE for Joint Modeling Right Censored Survival Data with Longitudinal Covariates **Ricardo Cao** (Universidade da Coruña) Single-index mixture cure models. An application to a study of cardiotoxicity in breast cancer patients **Yu Shen** (The University of Texas MD Anderson Cancer Center) Accommodating Time-Varying Heterogeneity in Risk Estimation under the Cox Model: A Transfer Learning Approach **Karen Messer** (University of California, San Diego) Recent advances in longitudinal doubly robust estimation
Contributed session 6: Time Series and Stochastic Modelling Organizer: ICSDS Chair: Han Xiao Room: S15- Carlos Paredes	**Badredine ISSAADI** (?) Approximating Markov Chains via Weak Perturbation Theory **Yuyang He** (The Chinese University of Hong Kong) Joint Mixed Membership Modeling of Multivariate Longitudinal and Survival Data for Learning the Individualized Disease Progression **Isabel Pereira** (Universidade de Aveiro) Censored Multivariate Linear Regression Models with Autocorrelated Errors - A Classical and Bayesian Approach **Soham Bonnerjee** (University of Chicago) Gaussian Approximation For Non-stationary Time Series with Optimal Rate and Explicit Construction **Paulo Teles** (School of Economics of the University of Porto) The use of aggregate time series for testing conditional heteroscedasticity **Elena Ballante** (University of Pavia) Smoothing Method for Unit Quaternion Time Series: An application to Multiple Sclerosis motion data **Azam Asanjarani** (The University of Auckland) Parameter and State Estimation in Queues **Lixuan An** (Ghent University) An extreme value support measure machine for group anomaly detection **Andrea Ghiglietti** (Università degli Studi di Milano-Bicocca) Interacting innovation processes **Predrag Pilipovic** (University of Copenhagen) Second-Order Stochastic Differential Equations: Parameter Estimation and Applications to Greenland Ice Core Data **Xiaochen Long** (Rice University) A Branching Process Model of Clonal Hematopoiesis **Frank van der Meulen** (Vrije Universiteit Amsterdam) Backward Filtering Forward Guiding for Markov processes **Roberto Molinari** (Auburn University) Robust and Scalable Inference for Stochastic Processes **Frederico Caeiro** (CMA - NOVA School of Science and Technology) Extreme Value Index estimation with Probability Weighted Moments **Saheed Afolabi** (?) A Kumaraswamy-Normal (Kw-N) Distribution Approach to the Basic Control Charts for Process Monitoring in Environmental Sciences
2023/12/19 2:40pm to 3:40pm	**Reception and Poster Session**

END OF DAY

December 20th, 2023

2023/12/20 9:00am to 10:30am	**Parallel Sessions**
Synthetic Data Generation: methods for tabular data, resemblance, utility, and privacy preservation Organizer: Arnoldo Frigessi Chair: Arnoldo Frigessi Room: S16- Vianna da Motta	**Ingrid Hobæk Haff** (University of Oslo, Department of Mathematics) Synthetic data with vine-copulas – balancing utility and privacy **David Balcells** (University of Oslo) Synthetic Data in Chemistry: Deterministic, Evolutionary, and Generative **Dungang Liu** (University of Cincinnati) Assessing partial association between ordinal variables: quantification, visualization, and hypothesis testing **Arnoldo Frigessi** (University of Oslo) From limited patient data, to high frequency synthetic data, to the differential equation of a breast tumour growth
Inference of network data Organizer: Sofia Olhede Chair: Heping Zhang Room: S14- Lopes-Graça	**Mihai Cucuringu** (University of Oxford) Spectral methods for clustering signed and directed networks and heterogeneous group synchronization **Jiashun Jin** (Carnegie Mellon University) The Statistical Triangle **Jeff Cai** (University of Notre Dame) Supervised Network Centrality Estimation and Prediction **Sofia Olhede** (EPFL) Quantifying the complexity of a network
Recent Advances in Causal Inference Organizer: Nicole Pashley Chair: Tirthankar Dasgupta Room: S9- Maria Helena Vieira da Silva	**Matteo Bonvini** (Rutgers University) On the possibility of doubly robust root-n inference **Reagan Mozer** (Bentley University) Decreasing the human coding burden in randomized trials with text-based outcomes via model-assisted impact analysis **Jean Pouget-Abadie** (Google Research) Causal Inference for Advertisers and Users **Stijn Vansteelandt** (Ghent University) Orthogonal prediction of counterfactual outcomes
Advances at the interface of statistics and fair, transferrable machine learning Organizer: Pragya Sur Chair: Yao Xie Room: S10- Amadeo de Souza-Cardoso	**Amanda Coston** (Microsoft Research) Examining the validity and fairness of societally high-stakes decision-making algorithms **Debarghya Mukherjee** (Boston University) Domain Adaptation meets Individual Fairness. And they get along **Seamus Somerstep** (University of Michigan) Algorithmic equity in strategic environments **Christoph Kern** (LMU Munich) A Multiverse of Decisions: Fairness Implications of Algorithmic Profiling Schemes
Functional Data Analysis Organizer: ICSDS Chair: Yaqing Chen Room: S8- Glicínia Quartin	**Ana-Maria Staicu** (North Carolina University) Understanding posting behavior on social media using functional data analysis **Yichao Wu** (University of Illinois at Chicago) Partially-Global Frechet Regression **Wolfgang Polonik** (University of California, Davis) Inference for Topological Data Analysis **Tailen Hsing** (University of Michigan) An RKHS Approach for Variable Selection in High-dimensional Functional Linear Models
Nonparametric and machine learning methods Organizer: ICSDS Chair: Koulik Khamaru Room: S13 -Amália Rodrigues	**Nicolai Meinshausen** (ETH Zurich, Seminar for Statistics) Engression: Extrapolation for Nonlinear Regression? **Mona Azadkia** (London School of Economics) Kernelized CODEC: A Family of Correlation Coefficients **Giles Hooker** (University of Pennsylvania) A Generic Approach for Reproducible Model Distillation **Sonia Petrone** (Università Bocconi) On higher order approximation of Bayesian procedures through empirical Bayes
Spatial and shrinkage models Organizer: ICSDS Chair: Marc Genton Room: Small Auditorium	**Daniel Yekutieli** (Tel Aviv University) Nonparametric shrinkage estimation in high dimensional generalized linear models via Polya trees **Veronica Berrocal** (University of California, Irvine) Flexible spatial dependence modeling using a shrinkage process prior **Michele Peruzzi** (University of Michigan) Bayesian multi-species N-mixture models for large scale spatial data in community ecology **Michael Stein** (Rutgers University) Future prospects for spatial statistics

Contributed session 7: High-Dimensional Estimation and Inference Organizer: ICSDS Chair: Yan Liu Room: S15- Carlos Paredes	**Wenqing He** (University of Western Ontario) Feature Screening with Large Scale and High Dimensional Censored Data **Ivan Hejny** (Lund University) Asymptotic distribution of low-dimensional patterns by regularizors with convex non-differentiable penalties **Nicolas Hernandez** (UCL) Optimising interval PLS via History Matching **Rhythm Grover** (Indian Institute of Technology Guwahati) Robust Estimators of Two-Dimensional Sinusoidal Model Parameters **Andrej Srakar** (University of Ljubljana) Spectral CLTs with long memory and aging for large language and large multimodal models **Guosheng Yin** (Imperial College London, Department of Mathematics) Effective sample size estimation based on the concordance between p-value and posterior probability of the null hypothesis **Qing Wang** (Wellesley College) Jackknife Empirical Likelihood for Quantifying Variability of Infinite-order U-statistics **Marcos Matabuena** (Harvard University, Biostatistics Department) Model-Free Conditional Conformal Depth Measures Algorithm for Uncertainty Quantification in Complex Functional Regression Models **Maria Dolores Martinez-Miranda** (University of Granada) A goodness-of-fit test for the latency in a mixture cure model with covariates **Vanda Lourenco** (Dep. Mathematics FCT-NOVA) On the robustness of machine learning methods for genomic prediction **Somak Dutta** (Iowa State University) Bayesian variable selection with embedded screening **Lifeng Lin** (University of Arizona) Refined methods for trial sequential analyses for living systematic reviews **Eva Biswas** (Iowa State University) Testing Markov Random Field Models for Binary Spatial Data **Erika Banzato** (University of Padova) Localizing differences in decomposable graphical models
2023/12/20 11:00am to 12:00pm Room: Small Auditorium	**Plenary Talk: Caroline Uhler** (MIT) Causality meets Representation Learning
2023/12/20 12:00pm to 1:10pm	**Lunch Break**
2023/12/20 1:10pm to 2:40pm	**Parallel Sessions**
Bridging Academia and Industry: New Problems Arising from Industry Organizer: Haoda Fu Chair: Peter Song Room: Small Auditorium	**Haoda Fu** (Eli Lilly) LLM Is Not All You Need. Generative AI on Smooth Manifolds **Lesley Meng** (Yale University) Emergency Department Boarding: Quantifying the Impact of Waiting in the ED on Patient Outcomes and Downstream Hospital Operations **Yacine Ait-Sahalia** (Princeton University) So Many Jumps, So Few News **Steven Kou** (Boston University) Inverse Leverage Effect for Cryptocurrencies and Meme Stocks: a Comprehensive Framework
Recent developments in statistical inference for directional data Organizer: Irène Gijbels Chair: John Kolassa Room: S16- Vianna da Motta	**Andrea Meilán-Vila** (Universidad Carlos III de Madrid) Estimating a geodesic normal distribution on the sphere with elliptical contours **Maria Alonso-Pena** (ORSTAT, KU Leuven) Using a parametric model to improve nonparametric density estimation on the sphere **Eduardo García-Portugués** (Carlos III University of Madrid) On tests of uniformity for directional data **Shogo Kato** (Institute of Statistical Mathematics) A Copula Model for Trivariate Circular Data
Statistics of Extremes & Applications: Remembering the 40 Years of Vimeiro Organizer: Ivette Gomes Chair: Ivette Gomes Room: S10- Amadeo de Souza-Cardoso	**Miguel de Carvalho** (University of Edinburgh) Semiparametric Bayesian Modeling of Nonstationary Joint Extremes **M Isabel FRAGA ALVES** (CEAUL University Lisbon) The Myth of the Kraken: When Mythology Meets EVT **Ana Freitas** (Universidade do Porto) Clustering for dynamically generated stochastic processes **Holger Rootzen** (Chalmers) Is there a cap on how long a human can live? Truncation, censoring and extreme value modelling
Statistical Intelligence in Time Series Problems Organizer: Daniel PEÑA Chair: Daniel PEÑA Room: S13 -Amália Rodrigues	**Rong Chen** (Rutgers University) Dynamic Matrix/Tensor Factor Models for High Dimensional Time Series **Pedro Galeano** (Universidad Carlos III de Madrid) Detecting Outliers in Large Sets of Time Series **Veronika Rockova** (University of Chicago) Adaptive Bayesian Prediction Inference **Ines Wilms** (Maastricht University) Monitoring Machine Learning Forecasts for Platform Data Streams
Causality, generalizability, and robustness Organizer: Dominik Rothenhäusler Chair: Dominik Rothenhäusler Room: S14- Lopes-Graça	**Qingyuan Zhao** (University of Cambridge) Sensitivity Analysis via Stochastic Programming **Hongseok Namkoong** (Columbia University) A Sensitivity Framework for External Validity **Fanny Yang** (ETH Zuerich) How machine learning models fail to be robust **Ying Jin** (Department of Statistics, Stanford University) Diagnosing replication studies with a generalizability toolkit

Estimation with low-rank and network structures Organizer: ICSDS Chair: Mihai Cucuringu Room: S9- Maria Helena Vieira da Silva	**Florence d'Alché-Buc** (Télécom Paris, IP Paris) A Low-Rank Perspective on Structured Output Prediction **Grace Yi** (University of Western Ontario) Generalized network structured models with mixed responses subject to measurement error and misclassification **Heping Zhang** (Yale University) Tensor quantile regression with low-rank tensor train estimation **Andrew Nobel** (UNC Chapel Hill) Network Comparison via Optimal Transport of Markov Chains
Privacy and Fairness Organizer: ICSDS Chair: Weijie Su Room: S8- Glicínia Quartin	**Yan Yu** (University of Cincinnati) Reidentification Risk in Panel Data: Protecting for k-Anonymity **Eric Kolaczyk** (Boston University) Differentially Private Linear Regression with Linked Data **Carlos Soto** (University of Massachusetts Amherst) Shape Preserving Differential Privacy **Henry Horng-Shing Lu** (National Yang Ming Chiao Tung University) Test-Fairness Deep Learning with Influence Score
Contributed session 8: Advances in Bayesian Statistics and Model Selection Organizer: ICSDS Chair: Jeff Cai Room: S15- Carlos Paredes	**Alessandro Mascaro** (University of Milano-Bicocca) Bayesian Causal Discovery from Unknown General Interventions **Aram-Alexandre Pooladian** (New York University) Minimax estimation of discontinuous optimal transport maps: The semi-discrete case **Ying Yuan** (University of Texas MD Anderson Cancer Center) SAM: Self-adapting Mixture Prior to Dynamically Borrow Information from Historical Data in Clinical Trials **Jorge Cabral** (Center for Research & Development in Mathematics and Applications, University of Aveiro) Selecting Prior Information for Generalized Maximum Entropy Estimation **Sameer Deshpande** (University of Wisconsin–Madison) BART for network-linked data **John Kornak** (University of California, San Francisco) Bayesian image analysis in Fourier space for neuroimaging **Cecilia Balocchi** (University of Edinburgh) Development, validation and use of imputed data in precision medicine **Yuexi Wang** (University of Illinois Urbana-Champaign) Adversarial Bayesian Simulation **Anwesha Chakravarti** (University of Illinois Urbana Champaign) Bayesian Variable Selection and Sparse Estimation for High-Dimensional Graphical Models **Seunghyun Moon** (Seoul National University) Varying coefficient regression: revisit and parametric help **Diptarka Saha** (University of Illinois, Urbana - Champaign) Probabilistic Guarantees on Sensitivities of Bayesian Neural Network **Oladapo Oladoja** (?) On the Bayesian Modeling of Suspended Solids in Oyo State Reservoirs
2023/12/20 2:40pm to 3:00pm	**Coffee Break**
2023/12/20 3:00pm to 4:30pm	**Parallel Sessions**
Multifaceted statistical approach to dependent data Organizer: Yan Liu Chair: Daniel PEÑA Room: S8- Glicínia Quartin	**Yannick Baraud** (University of Luxembourg) Robust estimation of a regression function in exponential families **Alexandre Lecestre** (University of Luxembourg) Robust estimation for mixing Markovian processes **Paolo Victor Redondo** (King Abdullah University of Science and Technology) A new measure for extremal brain connectivity **Yan Liu** (Waseda University) Prediction-based statistical inference for multiple time series
Risk Analysis and Data Science Organizer: Teresa Oliveira Chair: Holger Rootzen Room: S16- Vianna da Motta	**Marek Kimmel** (Rice University) On the risk of cancer recurrence based on tumor's clonal structure **Ivette Gomes** (DEIO and CEAUL, University of Lisbon) Further Tales on the Role of Tails in Risk Assessment **M. Manuela Neves** (CEAUL & ISA) Estimation of risk measures at extreme levels: an overview **Teresa Oliveira** (Universidade Aberta) From Puzzle Pieces to Masterpiece: Connecting strengths between Risk Analysis, Incomplete Block Designs, Data Science, and Artificial Intelligence
New methods and complex models for non-Euclidean data Organizer: Byeong Park Chair: Byeong Park Room: S10- Amadeo de Souza-Cardoso	**Zhenhua Lin** (National University of Singapore) Logistic Regression and Classification with non-Euclidean Covariates **Jaesung Park** (Seoul National University) Quantile PCA **Leonardo Santoro** (EPFL) Functional Data Analysis in the Bures-Wasserstein Space
New Approaches in Statistical Learning Organizer: Min Xu Chair: Min Xu Room: S13 -Amália Rodrigues	**Yao Xie** (Georgia Institute of Technology) Density estimation via JKO-flow generative models with guarantees **George Chen** (Carnegie Mellon University) Survival Kernets: Scalable and Interpretable Deep Kernel Survival Analysis with an Accuracy Guarantee **Oliver Feng** (University of Bath) Convex loss estimation via score matching **Victor-Emmanuel Brunel** (CREST) Barycenters in metric spaces with non-positive curvature

Causal Estimation and Modelling Organizer: ICSDS Chair: Stijn Vansteelandt Room: S14- Lopes-Graça	**Dehan Kong** (University of Toronto) Fighting Noise with Noise: Causal Inference with Many Candidate Instruments **Keith Levin** (University of Wisconsin-Madison) Estimating network-mediated causal effects via spectral embeddings **Linbo Wang** (University of Toronto) The Promises of Parallel Outcomes **Tirthankar Dasgupta** (Rutgers University) Design and analysis of multi-factor audit experiments with application to identification of racial discrimination
Applications of Optimal Transport to Statistics and Machine Learning I Organizer: Bodhisattva Sen / Axel Munk Chair: Axel Munk Room: Small Auditorium	**Thomas Staudt** (University of Göttingen) Lower complexity adaptation of empirical optimal transport **Marc Hallin** (Université libre de Bruxelles) Measure-transportation-based multiple-output quantile regression **Yoav Zemel** (Ecole polytechnique fédérale de Lausanne) Transportation-based functional ANOVA and PCA for covariance operators **Jeremie Bigot** (University of Bordeaux) Stochastic optimal transport in Banach spaces for regularized estimation of multivariate quantiles
Bayesian Machine Learning Organizer: ICSDS Chair: Sonia Petrone Room: S9- Maria Helena Vieira da Silva	**Gemma Moran** (Rutgers University) Holdout Predictive Checks for Bayesian Model Criticism **Weining Shen** (University of California, Irvine) Bayesian biclustering and its application in education data analysis **Botond Szabo** (BOCCONI UNIVERSITY) Sampling depth trade-off in function estimation under a two-level design **Jean-Michel Marin** (University of Montpellier) Goodness of Fit for Bayesian Generative Models
Contributed session 9: Functional Data Analysis and Experimental Design Organizer: ICSDS Chair: Ana-Maria Staicu Room: S15- Carlos Paredes	**Thi Kim Hue Nguyen** (University of Padova) Unguided structure learning of DAGs for count data **Matthias Eckardt** (Humboldt-Uniersität zu Berlin) On spatial point processes with composition-valued marks **Jake Grainger** (EPFL) Spectral estimation for spatial point processes and random fields **LINGXIAO ZHOU** (University of Florida) Bayesian inference for aggregated Hawkes processes **Xenia Miscouridou** (University of Cyprus, Imperial College London) Cox-Hawkes: doubly stochastic spatiotemporal Poisson processes **Arun Ravichandran** (Rutgers University) Optimal allocation of sample size for randomization-based inference from 2^K factorial designs **Aniruddha Pathak** (Iowa State University) Regularized AMMI Model for Multi-Environment Agricultural Trials **Stanislav Škorňa** (Palacký University) Compositional splines for approximation of bivariate densities **Xing Liu** (Imperial College London) A High-dimensional Convergence Theorem for U-statistics with Applications to Kernel-based Testing **Kartik Waghmare** (Swiss Federal Institute of Technology, Lausanne (EPFL)) The Completion of Covariance Kernels **Tomas Masak** (EPFL) Functional Graphical Lasso **Manuel Oviedo-de la Fuente** (CITIC, Universidade da Coruña) Functional regression models with functional response **Giovanni Saraceno** (University at Buffalo) Poisson Kernel-Based Tests for Uniformity on the d-dimensional Sphere with the textttQuadratiK **Yong Wang** (University of Auckland) Nonparametric Density Estimation for Toroidal Data **Felix Gnettner** (Otto-von-Guericke-Universität Magdeburg) Sequential pointwise Monte-Carlo approximation of data depth with statistical guarantees
2023/12/20 4:30pm to 4:50pm	**Coffee Break**
2023/12/20 4:50pm to 6:20pm	**Parallel Sessions**
Applications of Optimal Transport to Statistics and Machine Learning II Organizer: Axel Munk / Bodhisattva Sen Chair: Bodhisattva Sen Room: S13 -Amália Rodrigues	**Alberto González Sanz** (Columbia University) Weak limits of the regularized optimal transport problem **Tudor Manole** (Carnegie Mellon University) Central Limit Theorems for Smooth Optimal Transport Maps **Nabarun Deb** (University of Chicago) Sinkhorn Diffusion and Wasserstein mirror gradient flow **Nicolas Garcia Trillos** (University of Wisconsin Madison) Optimal Transport Based Denoising
Latent trait models: applied and methodological advances Organizer: Serena Arima Chair: Serena Arima Room: S10- Amadeo de Souza-Cardoso	**Enrico Ciavolino** (University of Salento) A bridge between PLS and GME estimators in the SEM framework **Marco Mingione** (Dept. of Political Sciences, Roma Tre University) Segmenting Toroidal time series by nnonhomogeneous hidden semiI-Markov models **Sabrina Giordano** (University of Calabria (Italy)) A new reading of the parameters in Markov switching stereotype models **Mario Angelelli** (University of Salento) Awareness and maturity in Big Data initiatives: atypical behaviour in latent trait models

Precision public health Organizer: Eric Laber Chair: Haoda Fu Room: S8- Glicínia Quartin	**Alexander Volfovsky** (Duke University) Mechanistic knowledge, machine learning and causal inference **Nina Deliu** (Sapienza University of Rome) Modeling considerations when optimizing adaptive experiments under the reinforcement learning framework **Eric Laber** (Duke University) Optimal treatment regimes under partially ordered surrogates **Eun-Young Mun** (UNT Health Science Center) Is Motivation to Change Alcohol Use a State or a Trait? An mHealth Investigation
Causality, Design, and Modelling Organizer: ICSDS Chair: Mario Figueiredo Room: S9- Maria Helena Vieira da Silva	**Tatyana Krivobokova** (University of Vienna) Iterative regularisation in ill-posed generalised linear models **David Azriel** (The Technion) Optimal minimax random designs for weighted least squares estimators **Tianchen Qian** (University of California, Irvine) Modeling Time-Varying Effects of Mobile Health Interventions Using Longitudinal Functional Data from HeartSteps Study **Peter Song** (University of Michigan) Inferring Asymmetric Relations via Cross-fitting Data Analytics
Learning with Networks Organizer: ICSDS Chair: Giles Hooker Room: Small Auditorium	**Peter Bartlett** (UC Berkeley) In-Context Learning Linear Models with Transformers **Efstathia Bura** (TU Wien) Fusing Sufficient Dimension Reduction with Neural Networks **Dan Yang** (The University of Hong Kong) Network Regression and Supervised Centrality Estimation **Shuheng Zhou** (UC Riverside) Concentration of measure bounds for matrix-variate data with missing values
Sequential and reinforcement learning Organizer: ICSDS Chair: David Siegmund Room: S14- Lopes-Graça	**Linda Zhao** (University of Pennsylvania) Personalized Reinforcement Learning with Applications to Recommender System **Koulik Khamaru** (Assistant Professor, Rutgers University, Department of Statistics) Adaptive Linear Estimating Equations **Lan Wang** (University of Miami) Doubly Robust Sequential Quantile Off-Policy Inference **Juan Manuel Rodriguez-Poo** (Universidad de Cantabria) A projection based approach for interactive fixed effects panel data models
Theory and Practice of Data Science Organizer: ICSDS Chair: Victor-Emmanuel Brunel Room: S16- Vianna da Motta	**Jan Hannig** (University of North Carolina at Chapel Hill) A Geometric Perspective on Bayesian and Generalized Fiducial Inference **Karen Kafadar** (University of Virginia) Statistical Computing, Robust Methods, and Data Displays: Critical tools for Big Data **Jessica Utts** (University of California, Irvine) Data Science Ethics for Statistics Education and Practice **Ou Liu** (Rutgers University) The Dynamics of Firm Size Inequality: The Role of Acquisition and Innovation

END OF DAY

December 21st, 2023

2023/12/21 9:00am to 10:30am	**Parallel Sessions**
Statistical Data Science Motivated by Clinical Data Organizer: Arne Bathke Chair: Arne Bathke Room: S10- Amadeo de Souza-Cardoso	**Georg Zimmermann** (IDA Lab Salzburg, Paracelsus Medical University Salzburg) Covariate Adjustment in Rare Diseases **Stephen Schüürhuis** (Institute of Biometry and Clinical Epidemiology - Charité - University Medicine Berlin) Statistical Planning and Analysis of Translational Trials **Jen Tang** (Purdue University) Clustering High-dimensional Noisy Categorical and Numerical Data with Applications in Reliability **Arne Bathke** (University of Salzburg) Effectively Combining Nonparametric Functionals
Omics data analysis Organizer: Eunice Carrasquinha Chair: Eunice Carrasquinha Room: S16- Vianna da Motta	**Marta Lopes** (NOVA MATH, NOVA School of Science and Technology) Identifying Brain Tumor Gene Signatures through Multi-Omics Network Inference and Classification **Shrabanti Chowdhury** (Icahn School of Medicine at Mount Sinai) Learning directed acyclic graphs for ligands and receptors based on spatially resolved transcriptomic analysis **Pedro F. Ferreira** (ETH Zürich) Deep exponential families for single-cell data analysis **Carina Silva** (CEAUL and ESTeSL-IPL) Follow the Arrow. . . Plot
Degradation Modeling and Inference Organizer: Sheng-Tsaing Tseng Chair: Tatyana Krivobokova Room: S8- Glicínia Quartin	**I-Chen Lee** (National Cheng Kung University) Optimal Designs of Accelerated Degradation Tests with Unequal Measurement Intervals **Hung-Ping Tung** (National Yang Ming Chiao Tung University) Optimizing Two-variable Gamma Accelerated Degradation Tests with a Semi- analytical Approach **Sheng-Tsaing Tseng** (National Tsing-Hua University) Step-Stress degradation Model for Lifetime Prediction of Rechargeable Batteries **Marie-Félicia Beclin** (idesp) Regression Models for Quantile Function Data Applied to CT-Scans of Asthmatic Patients
Modern Multivariate Analysis Organizer: ICSDS Chair: Tailen Hsing Room: S9- Maria Helena Vieira da Silva	**Peter Bickel** (UC Berkeley) Some new algorithms and old theory for Independent Component Analysis (ICA) **John Kolassa** (Rutgers, the State University of New Jersey) Bivariate Tail Probability Approximations **Yating Liu** (University of Chicago) Sparse topic modeling via spectral decomposition and thresholding **Daniel Kessler** (University of Washington) Matrix-Variate Canonical Correlation Analysis
Transfer Learning, Data Fusion, and Change-Point Organizer: ICSDS Chair: Peter Bartlett Room: Small Auditorium	**Tianxi Cai** (T.H. Chan School of Public Health, Harvard University) Semi-supervised Triply Robust Inductive Transfer Learning **Dominik Rothenhaeusler** (Stanford) Transfer learning under random distribution shifts **Ying Wei** (Columbia University) A Double Projection Approach for Safe and Efficient Semi-Supervised Data-Fusion **David Siegmund** (Stanford University) Detection and Estimation of Jumps, Bumps, and Kinks
Statistics for Healthcare Organizer: ICSDS Chair: Marianthi Markatou Room: S14- Lopes-Graça	**Stephane Guerrier** (University of Geneva) Assessing COVID-19 Prevalence in Austria with Infection Surveys and Case Count Data as Auxiliary Information **Edsel Pena** (University of South Carolina) Joint Dynamic Models and Statistical Inference for Recurrent Competing Risks, Longitudinal Marker, and Health Status **Susmita Datta** (University of Florida) Predicting Patient Survival With Multi-Block Partial Lease Squares using Multi-Omics Data **Jin Zhou** (UCLA) Estimating heritability of time-to-event traits using censored multiple variance component model
Contributed Session 10: High-dimensional and nonparametric statistics Organizer: ICSDS Chair: Eugene Katsevich Room: S15- Carlos Paredes	**Lubna Amro** (TU Dortmund University) Randomization-based Inference in Nonparametric Repeated Measure Models with Missing Data **Sandra Fortini** (Bocconi University) Large-width asymptotics for ReLu neural networks with *alpha*-stable initializations **Gilles Mordant** (Universität Göttingen) Manifold learning with sparse regularised optimal transport **Guaner Rojas** (Universidad de Costa Rica) Capturing differences across groups using statistical diagnostic classification modeling **Ricardo Baptista** (California Institute of Technology) Conditional sampling via block-triangular optimal transport maps **Torben Sell** (University of Edinburgh) Nonparametric classification with missing data **Tomasz Skalski** (Wrocław University of Science and Technology) Pattern recovery by SLOPE **Polina Gordienko** (Ludwig Maximilian University of Munich) A dynamically rational framework of probability aggregation **Elliot Young** (University of Cambridge) Sandwich Boosting for semiparametric estimation with grouped data **Jonas Beck** (University of Salzburg) Combining Stochastic Tendency and Distribution Overlap Towards Improved Nonparametric Inference for K-Samples **Ian Waudby-Smith** (Carnegie Mellon University) Distribution-uniform anytime-valid inference **Hongjian Shi** (Technical University of Munich) On universal inference in normal mixture models **Iris Ivy Gauran** (King Abdullah University of Science and Technology) Exhaustive Nested Cross-Validation for High-dimensional Testing

Student Award Session Organizer: ICSDS Chair: Keith Levin Room: S13 -Amália Rodrigues	**Manuel Mueller** (University of Cambridge) Isotonic subgroup selection **Yuming Zhang** (University of Geneva) Just Identified Indirect Inference Estimator: Accurate Inference through Bias Correction **Xin Xiong** (Harvard University) Guided Adversarial Robust Transfer Learning with Source Mixing **Paul Rognon Vael** (U. Pompeu Fabra) Support recovery with knowledge on sparsity structure and non-exchangeable regularization **Yu Gui** (University of Chicago) Conformalized Matrix Completion **Lasse Vuursteen** (TU Delft) Optimal high-dimensional and nonparametric distributed testing under communication constraints **Chiara Gaia Magnani** (University of Milano-Bicocca) Rank tests for outlier detection **Arpan Singh** (Indian Institute of Technology Hyderabad) Optimal designs for testing pairwise differences: a graph based game theoretic approach **Alexis Boulin** (Laboratoire Jean Alexandre Dieudonné) High-dimensional variable clustering based on sub-asymptotic maxima of a weakly dependent random process **Michel Groppe** (University of Göttingen) Lower Complexity Adaptation for Empirical Entropic Optimal Transport **Matthieu Bulte** (University of Copenhagen) Autoregressive Models for Time Series of Random Objects **Onrina Chandra** (Rutgers University) Performance Guaranteed Confidence Sets of Ranks
2023/12/21 11:00am to 12:00pm Room: Small Auditorium	**Plenary Talk: Gabor Lugosi** (ICREA & Pompeu Fabra University) Network Archaeology: models and some recent results
2023/12/21 12:00pm to 12:15pm	**Award Ceremony and Closing**
2023/12/21 12:15pm to 1:30pm	**Lunch Break**

END OF DAY

Poster Session

Poster Session
2023/12/19
2:40pm to 3:40pm
Room: Jorge de Sena & Vitorino Nemésio

Thomas Schatz (LIS - AIX MARSEILLE UNIVERSITE - CNRS) Hierarchical Unbiased Estimation (HUE) large Statistical accuracy/computational performance trade-offs with a weighted incomplete U-statistic

Thomas Schatz (LIS - AIX MARSEILLE UNIVERSITE - CNRS) Hierarchical Unbiased Estimation (HUE) large Statistical accuracy/computational performance trade-offs with a weighted incomplete U-statistic

Yusuf Sale (LMU Munich) Quantifying Uncertainty in Machine Learning: What are we actually quantifying?

Heeyeon Kang (POSTECH) Penalized estimation for finite mixture of multivariate regression models

Jungmin Kwon (KAIST) Low-rank, Orthogonally Decomposable Tensor Regression With Internal Variation Penalty

Rui Santos (Escola Superior de Tecnologia e Gestão, Instituto Politécnico de Leiria; CEAUL – Centro de Estatística e Aplicações, Faculdade de Ciências, Universidade de Lisboa) Sexual classification based on orthopantomography

Nicolas Bianco (Universitat Pompeu Fabra) Computationally efficient segmentation for non-stationary time series

Xuanjie Shao (KAUST) Deep Compositional Models for Nonstationary Extremal Dependence

Cristian Castiglione (University of Padova) Increasing shrinkage in Bayesian nonparametric regression for differential expression analysis

Suyu Liu (MD Anderson Cancer Center) Why There Are So Many Contradicted or Exaggerated Findings in Highly-Cited Clinical Research?

Karim Benhenni (University Grenoble Alpes) Local nonparametric linear estimation of regression functions based on random functional designs and correlated errors

Jinheum Kim (University of Suwon) Risk factors for musculoskeletal disorders in farmers of Korea: based on survey on occupational diseases of farmers conducted by the rural development administration in 2020 and 2022

Huining Kang (University of New Mexico) A linear mixed effects model-based permutation test to identify genes that have differentially expressed/spliced transcripts

Luca Danese (University of Milano-Bicocca) Model-based clustering of pandemic trajectories with common historical change times

Jinseong Bok (POSTECH) Clustering Hidden Markov Model

Martin Schindler (Technical university of Liberec) Nonparametric Tests for Serial Independence in Linear Model against a Possible Autoregression of Error Terms

Lauren Liao (University of California, Berkeley) Transfer Learning With Efficient Estimators to Optimally Leverage Historical Data in Analysis of Randomized Trials

Daniele Tramontano (Technical University of Munich) Generic Identifiability in LiNGAM models with correlated errors.

Yuta Nakahara (Waseda University) Preliminary Research Results in Application of a Tree Distribution to Bayesian Offline Change Point Detection and Segmentation

Tommy Tang (University of Illinois in Urbana Champaign) Characterizing Identifiability of Treatment Effects Under Presence of Unobserved Spatial Confounder

Marie Ternes (Maastricht University) Cross-Temporal Forecast Reconciliation at Digital Platforms with Machine Learning

Patricia de Zea Bermudez (FCUL and CEAUL) The concurrent effect of meteorological variables on the occurrence of extreme wildfires

Miroslav Siman (UTIA AV CR (Czech Academy of Sciences)) Testing Symmetry Around a Line or Subspace

Ayana Mateus (NOVA School of Science and Technology) Revisiting the Jackson Exponentiality Test: An Investigation of its Properties and Performance

Seongil Jo (Inha University) One Class Classification Using Bayesian Optimization

Carlos Brás-Geraldes (ISEL/CEAUL) Child Growth Curve in Sofala - Mozambique and its comparison with other contexts

David Angeles (The Ohio State University) Enhancing Waterpipe Study Precision: Converting Pressure Drop Signals to Puffing Metrics with a Macro-Based Procedure

Eduardo Finn (Carlos III University of Madrid) Conditional Mode Estimator via Smoothed Quantile Regression

Carlos García-Meixide (Instituto de Ciencias Matemáticas) Causal survival embeddings: non-parametric counterfactual inference under right-censoring

Jing Li (Xi'an jiaotong-Liverpool University) Leveraging Bayesian Networks and Machine Learning for Biomarker Discovery in Hepatocellular Carcinoma

Elsa Moreira (NOVA School of Sciencies and Technology) Modelling the SGI Drought Classes Time Series for Groundwater Drought Assessment and Prediction in Algarve Region