## 8:30am Registration & Continental Breakfast - VEC 401 multiple purpose room 7:30am

room

purpose

multiple

VEC

Welcome-

8:55am

8:30am

### June 4th Monday, Morning

Lobby

VEC

at

Break

Coffee

11:00am

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aB

10:30

### 9:00am - 10:30am

### High-dimensional Tensor Data Analysis (Room VEC 404/405)

Organizer & Chair: Xin Zhang, Florida State U

- 1. **Xuan Bi** (Yale) `Multilayer Tensor Factorization with Applications to Recommender Systems'
- 2. Will Wei Sun (U Miami) 'Dynamic Tensor Clustering'
- 3. **Qing Mai** (FSU)`Covariate-adjusted tensor classification in high-dimensions'

### High-dimensional inference: assumption-lean or assumption-laden? (Room VEC 902/903)

Organizer: **Ryan Tibshirani** (CMU); Chair: **Jelena Bradic** (UCSD)

- 1. **Todd Kuffner (Washington U)** `Iinferential goals, targets, and principles in high-dimensional regression'
- 2. Lucas Janson (Harvard) 'Should We Model X in High-Dimensional Inference?'
- 3. **Andreas Buja (U Penn)** `Towards a Better Understanding of "High-Dimen." Linear Least Squares Reg.'

### Modern nonparametric statistic (Room VEC 1202/1203)

Organizer: **Richard Samworth** (Cambridge); Chair: **Zhengling Qi** (UNC)

- 1. Samory Kpotufe (Princeton) `Regimes of label-noise determine the benefits of Active Learning'
- 2. **Peter Orbanz** (Columbia) `Sampling design and stochastic gradient descent for relational data'
- 3. **Tong Li** (Columbia) `Statistical Properties of Maximum Mean Discrepancy with Gaussian Kernels'

### New methods for directed acyclic Gaussian graph and adaptive data analysis (Room VEC 1302/1303)

Organizer: Yichao Wu (UIC); Chair: Weibin Mo (UNC)

- $1. \ \textbf{Lev Reyzin} \ (\textbf{UIC}) `Sublinear-Time \ Adaptive \ Data \ Analysis'$
- 2. **Xiaotong Shen** (U Minnesota) `Reconstruction of a directed acyclic Gaussian graph'
- 3. **Yunzhang Zhu** (OSU)`Convex clustering over an undirected graph'

### Statistical Inference in Clustering Problems (Room VEC 1402)

Organizer & Chair: Jacob Bien (Cornell)

- 1. Max G'Sell (CMU) `Inference for variable clustering under correlation-like similarities'
- 2. Gourab Mukherjee (USC) 'Large scale cluster analysis via L1 fusion penalization'  $\,$
- 3. **Yen-Chi Chen** (UW)`Density Tree and Density Ranking in Singular Measures'

### Statistical methods of integrating -omics data (Room VEC 1403)

Organizer: Y. Wei (Columbia); Chair: X. Song (Mount Sinai)

- 1. **Gen Li** (Columbia)`A Statistical Framework for Leveraging Information across Multiple Traits in Genetic Studies'
- 2. **Pei Wang** (Mount Sinai) 'A new method for miRNA-mRNA interactions due to environmental exposures'
- 3. **Peter Song** (Umich) 'smFARM: Sparse Multivar. Factor Analysis Regression Model in integrative genomics analysis'

### 11:00am-12:30am

### Recent Advances in Statistical Learning (Room VEC 404)

Organizer: Ming Yuan (CMU); Chair: Dong Xia (UCSD)

- 1. **Jason Lee** (USC) `Geometry of Optimization Landscapes and Implicit Regularization of Optimization Algorithms.'
- 2. **Aurelie Lozano** (IBM) 'M-estimation with the Trimmed L1 penalty'
- 3. Sofia Olhede (UCL)`Methods of network comparison'

### Supervised and unsupervised learning of complex data (Room VEC 405)

Organizer & Chair: Junhui Wang (Citi U of HK)

- 1. Yongzhao Shao (NYU) `Systems of partially linear models with gradient boosting'
- 2. **Yoonkyung Lee** (OSU) 'Supervised Dimensionality Reduction for Exponential Family Data'
- 3. **Yuan Zhang** (FSU)`Transform-based unsupervised point registration and unseeded low-rank graph matching'

### Advances in estimation and prediction for understanding complex disorders (Room VEC 902)

Organizer: **Heping Zhang** (Yale); Chair: **Naveen Narisetty**(UIUC)

- 1. **Min-ge Xie** (Rutgers) `Uncertainty Quantification of Treatment Regime in Precision Medicine'
- 2. **Yanyuan Ma** (Penn State) 'Semiparametric Estimation in the Secondary Analysis of Case-Control Studies'
- 3. Ying Wei (Columbia) `Quantile Decision Trees and Forest'

### Survival analysis with high-dimensional data (Room VEC 903)

Organizer: **Ingrid Van Keilegom** (KU Leuven); Chair: **Ricardo Cao** (Universidade da Coruña)

- 1. **Lan Wang** (U Minnesota) `Robust optimal treatment regime estimation with survival outcome'
- 2. **Jelena Bradic** (UCSD) `Fine-Gray Competing Risks Model with High-Dimensional Covariates: Estimation and Inference'

### Recent advances of HD statistical learning (Hammer LL109 A/B)

Organizer & Chair: Xiaotong Shen (U of Minnesota)

- 1. **Helen Zhang** (Arizona State)`Multiclass Probability Estimation with Support Vector Machines'
- 2. **Hui Jiang** (UMich) 'Minimizing Sum of Truncated Convex Functions and Its Applications'
- 3. **Peng Wang** (U Cincinnati)` Uncertainty and Inference for High-Dimensional Models Using the Solution Paths'

# 5:00pm - 6:30pm Students/Post-doc Mixer, VEC 404/405

### June 4th Monday, Afternoon

**VEC Lobby** 

at

Break

Coffee

3:45pm

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3:15pm

### 1:45pm - 3:15pm

### Modern Multivariate Statistics: Tensors and Network

### (Room VEC 404)

Organizer & Chair: Jacob Bien (Cornell)

- 1. **Dong Xia** (Columbia) Computationally Efficient Tensor Completion with Statistical Optimality'
- 2. **Peter Hoff** (Duke) 'Structured shrinkage of tensor parameters'
- 3. **Dave Choi** (CMU) 'Global Spectral Clustering for Dynamic Networks

### Flexible Statistical Learning and Inference (Room VEC 405)

Organizer: Yufeng Liu (UNC); Chair: Siliang Gong (UNC)

- 1.  $\operatorname{\textbf{Min Jin Ha}}$  (MD Anderson) `Multi-layered Graphical Models'
- 2. Fei Xue (UIUC) 'Variable Selection for Highly Correlated Predictors'  $\,$
- 3. **Xingye Qiao** (SUNY Binghamton) `Support Vector Machine with Confidence.'

### Philosophy of Science and the New Paradigm of Data-Driven Science (Room VEC 902/903)

Organizer & Chair: Todd Kuffner (Washington U)

Break

1:45pm Lunch

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12:30pm

- 1. **Deborah Mayo** (Virginia Tech) `Your Data-Driven Claims Must Still be Probed Severely'
- Ian McKeague (Columbia) `On the replicability of scientific studies'
- 3. **Xiao-Li Meng** (Harvard)`Conducting Highly Principled Data Science: A Statistician's Job and Joy'

### Advances in Bayesian methods for highdimensional data (Room VEC 1202/1203)

Organizer: H. Bondell (U Melbourne); Chair: Xuan Bi (Yale)

- 1. **Anindya Bhadra** (Purdue) `The Graphical Horseshoe Estimator for Inverse Covariance Matrices'
- 2. **Anirban Bhattacharya** (Texas A & M) `Scalable MCMC for Bayes shrinkage priors'
- Marianthi Markatou (SUNY Buffalo) `Clustering on the Sphere: State-of-the-art and a Poisson Kernel-Based Model'

### High-dimensional machine learning methods (Room VEC 1302/1303)

Organizer & Chair: Annie Qu (UIUC)

- 1. **Yuguo Chen** (UIUC) `Latent Space Approaches to Community Detection in Dynamic Networks'
- 2. **Taps Maiti** (MSU) 'Classification for High-Dimensional Functional Data'
- 3. **Naveen Narisetty** (UIUC) 'A unified approach for censored quantile regression'

### Recent development of Statistical Neuroimaging Analysis (Room VEC 1402/1403)

Organizer: Lexin Li (UC Berkeley); Chair: Jason Lee (USC)

- 1. **Ali Shojaie** (U of Washington) 'Analyzing Non-Stationary High-Dimensional Time Series...'
- 2. Eric Lock (U of Minnesota) 'Tensor-on-tensor regression'
- Bei Jiang (University of Alberta) 'A Joint Modeling Approach for Baseline Matrix-valued Imaging Data and Treatment Outcome'

### 3:45pm - 4:45pm

### **Keynote Speech**

**VEC 201 Auditorium** 

Michael I. Jordan

(University of California, Berkeley)

On Gradient-Based Optimization:
Accelerated, Stochastic and
Nonconvex

Chaired by
Annie Qu (UIUC)

### 8:00am Registration and Continental Breakfast at VEC Lobby 7:30am

### June 5<sup>th</sup>, Tuesday, Morning

**Break at VEC Lobby** 

Coffee

- 10:30am

00:01

### 8:30am - 10:00am

### Nonparameteric and Robust Statistical Methods for Imaging (Room VEC 405)

Organizer: Hernando Ombao (KAUST); Chair: Wei Pan (UMN)

- 1. **Mehdi Maadooliat** (Marquette University) 'Nonparametric Collective Spectral Density Estimation and Clustering with Application to Brian Activities'
- 2. **Zhaoxia Yu** (UC Irvine) 'A Flexible Non-parametric Framework for Imaging Genetics'
- 3. **Damla Senturk** (UCLA) 'Hybrid PCA of Region-Referenced Longitudinal Functional EEG Data'

### Big Data of different forms and different challenges

(ROOM VEC 1202 /1203)

Organizer: Regina Liu (Rutgers); Chair: Heping Zhang(Yale)

- 1. **Annie Qu** (UIUC) 'Individualized Multilayer Learning with An Application in Breast Cancer Imaging'
- 2. Catherine Chunling Liu (Polytech U of HK) 'Efficient estimation and fast algorithms for genetic microarray data with survival outcomes'
- 3. **Ricardo Cao** (Universidade da Coruña) 'Nonparametric mean estimation for big-but-biased data'

### OODA: Manifold Data Integration (ROOM VEC 1302)

Organizer: Marron, James Stephen (UNC); Chair: Anna Smith (Columbia)

- 1. **Piercesare Secchi** (Politecnico di Milano) 'Random Domain Decomposition for Kriging Riemannian Data'
- 2. **Ruiyi Zhang** (Florida State) 'Nonparametric K-Sample Test on Riemannian Manifolds with Applications to Analyzing Mitochondrial Shapes'
- 3. **Chao Huang** (UNC) 'High-Dimensional Manifold Data Clustering on Symmetric Spaces'

### Advances in high-dimensional statistics (ROOM VEC 1303)

Organizer & Chair: Genevera Allen (Rice)

- 1. Yufeng Liu (UNC) 'Adaptive local estimation for high dimensional linear models'  $\,$
- 2. **Jacob Bien** (Cornell) 'Are Clusterings of Multiple Data Views Independent?'
- 3. **Sijian Wang** (Rutgers) 'Regularized Robust Buckley-James method for AFT Model with General Loss Function'

### Causal Inference and Machine Learning (ROOM VEC 1402)

Organizer: **Ryan Tibshirani** (CMU); Chair: **Vincent Joseph Dorie** (Columbia)

- Edward Kennedy (CMU) 'Nonparametric causal effects based on incremental propensity score interventions'
- 2. Stefan Wager (Stanford) 'Quasi-Oracle Estimation of Heterogeneous Causal Effects'  $\,$
- 3. Yu-Xiang Wang (Amazon/UCSB) 'Off-policy Learning in Theory and in the Wild'  $\,$

### Decision making, operations research and statistical learning (ROOM VEC 1403)

Organizer & Chair: Cynthia Rudin (Duke)

- 1. **Theja Tulabandhula** (UIC) 'Online Learning of Buyer Behavior under Realistic Pricing Restrictions'
- 2. **Adam Elmachtoub** (Columbia) 'Smart "Predict, then Optimize" `
- 3. **Brian Segal** (Flatiron Health) 'P-splines with an I1 penalty for repeated measures'

10:30am - 11:30am

### **Keynote Speech**

**VEC 401** multiple purpose room

David Madigan (Columbia University)

Honest learning for the healthcare system: large-scale evidence from real-world data

Chaired by Tian Zheng (Columbia)

11:30am - 1:00pm Lunch Break

6:30pm Poster Section, VEC

5:00pm

Columbia University Faculty

at

-9:30pm Conference Banquet

6:30pm

401 Multiple Purpose Room (Sponsored by Two Sigma)

**Morningside Drive)** 

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### June 5<sup>th</sup>, Tuesday, Afternoon

Lobby

at VEC

Break

Coffee

3:15pm

2:45pm

### 1:15pm - 2:45pm

### Novel inference approaches for complex data setting

### (ROOM VEC 1202/1203)

Organizer: **Regina Liu** (Rutgers); Chair: **Junhui Wang** (City U. of Hong Kong)

- 1. **Ricardo Fraiman** (Universidad de la República de Uruguay) 'Connecting pairwise spheres by depth: DCOPS'
- 2. Emre Barut (George Washington University) 'Stein Discrepancy Methods for Robust Estimation and Regression'
- 3. **Aurore Delaigle** (U of Melbourne) 'Estimating a covariance function from fragments of functional data'

### New development for analyzing biomedical complex data (ROOM VEC 1302)

Organizer: **Zhezhen Jin** (Columbia); Chair: **Peng Wang** (University of Cincinnati)

- 1. **Xiaonan Xue** (Albert Einstein College of Medicine) 'New methods for estimating follow-up rates in cohort studies'
- 2. Mengling Liu (New York University) 'Mediation analysis with time-to-event mediator'  $\,$
- 3. **Tao Wang** (Albert Einstein College of Medicine) 'Adjustment for covariates in genome-wide association study'

### New Statistical Machine Learning Tools (ROOM VEC 201)

Organizer & Chair: Liu, Yufeng (UNC)

- 1. **Genevera Allen** (Rice) 'Inference, Computation, and Visualization for Convex Clustering and Biclustering'
- 2.  ${\bf Guan\ Yu}\ ({\rm SUNY\ Buffalo})\ `High-dimensional\ Cost-constrained\ Regression\ via\ Non-convex\ Optimization'$
- 3. **Heping Zhang** (Yale) 'Modeling Hybrid Traits for Comorbidity and Genetic Studies of Alcohol and Nicotine Co-Dependence'

### Functional Data Analysis in Action (ROOM VEC 1402)

Organizer & Chair: Kehui Chen (U of Pitt)

- 1. **Jane-Ling Wang** (UC Davis) 'Brain Functional Connectivity -- The FDA Approach'
- 2. **Daniel Gervini** (U of Wisconsin at Milwaukee) 'Functional Data Methods for Replicated Point Processes'
- 3. **Hans Mueller** (UC Davis) 'Frechet Regression for Time-Varying Covariance Matrices: Assessing Regional Co-Evolution in the Developing Brain'

### Statistical Learning and Genomics (ROOM VEC 1403)

Organizer: Ji Zhu (Umich); Chair: Bing Li (Penn State)

- 1. **Umut Ozbek** (Mount Sinai) 'Proteomics and Genomics Integration for Translational Cancer Research'
- 2. **Xiaoyu Song** (MSSM) 'What can we gain from proteogenomics prediction? The downstream analysis of NCI-CPTAC Proteogenomics DREAM Challenge'
- 3. **Wei Pan** (U of Minnesota) 'An empirical comparison of deep neural networks and other supervised learning methods'

### 3:15pm - 4:45pm

### Recent advances in high-dimensional data (ROOM VEC 1202)

Organizer: **Cunhui Zhang** (Rutgers); Chair: **Sijian Wang** (Rutgers)

- 1. **Pierre Bellec** (Rutgers) 'The noise barrier and the large signal bias of the Lasso and other convex estimators'
- 2. **Yuan Liao** (Rutgers) 'Factor-Driven Two-Regime Regression'
- 3. Jiashun Jin (CMU) 'Network Analysis by SCORE'

### Interpretable modeling and understanding variables

### (ROOM VEC 1203)

Organizer & Chair: Cynthia Rudin (Duke)

- 1. **Aaron Fisher** (Harvard) 'Model Class Reliance: Variable Importance when all Models are Wrong, but \*Many\* are Useful'
- 2. **Tong Wang** (U Iowa) 'Feature-Efficient Multi-value Rule Sets for Interpretable Classification'
- 3. **Cynthia Rudin** (Duke) 'Recent Work on Interpretable Machine Learning Models'

### Statistical Inference for High-Dimensional Data (Room VEC 1302)

Organizer & Chair: **Jeff Simonoff** (NYU)

- 2. **Joshua Loftus** (NYU) 'Inference after cross-validation'
- 3. **Yihong Wu** (Yale) 'Optimal estimation of Gaussian mixtures via denoised method of moments'

### New Development on Neuroimage Data Analysis (ROOM VEC 1303)

Organizer: Zhu, Hongtu(MD Anderson); Chair: Xuan Bi(Yale)

- 1.**Tingting Zhang** (UVA) `A Low-Rank Multivariate General Linear Model forMulti-Subject fMRI Data and a Non-Convex Optimization Algorithm for Brain Response'
- 2. **Zhengwu Zhang** (Rochester) 'Nonparametric Bayes Models of Fiber Curves Connecting Brain Regions'
- 3. **Dehan Kong** (U Toronto) 'Supervised Principal Component Regression for Functional Data with High Dimensional Productors'

### Spectral Clustering, Graphical Models, and Hierarchical Interactions (ROOM VEC 1402)

Organizer: **Lingzhou Xue** (Penn State); Chair: **Kuang-Yao Lee** (Temple)

- 1. **Hongyu Zhao** (Yale) 'Spectral clustering based on learning similarity matrix'
- 2. Bing Li (Penn State) 'Copula Gaussian Graphical Models for Functional Data'  $\,$
- 3. **Lingzhou Xue** (Penn State) 'Learning Nonconvex Hierarchical Interactions'

### Data Science in IT Industries (ROOM VEC 1403)

Organizer: David Banks(Duke); Chair:Genevera Allen(Rice)

- 1. **Julie Novak** (Netflix) 'Using Data Science to Improve Streaming Quality at Netflix'
- 2. **Tim Au** (Google) 'Random Forests, Decision Trees, and Categorical Predictors: The "Absent Levels" Problem'
- 3. **David Banks** (Duke University and SAMSI) 'The Challenge of Educating Data Scientists for Industry'

### 8:00am Registration and Continental Breakfast at VEC Lobby 7:30am

### June 6th, Wednesday, Morning

at VEC Lobby

Break

Coffee

10:30am

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10:00

### 8:30am - 10:00am

### Machine Learning and Precision Medicine (ROOM VEC 404 /405)

Organizer & Chair: Haoda Fu (Eli Lilly)

- 1. **Donglin Zeng** (UNC) 'Support vector machines for learning optimal individualized treatment rules with multiple treatments'
- 2. **Haoda Fu** (Eli Lilly) 'Individualized Treatment Recommendation (ITR) for SurvivalOutcomes'
- 3. **Yuanjia Wang** (Columbia) 'Estimation and Evaluation of Linear Individualized Treatment Rules to Guarantee Performance'

### Advances in Nonparametric Statistics and their Applications

(ROOM VEC 902/903)

Organizer: Narisetty, Naveen (UIUC); Chair: Fei Xue (UIUC)

- 1. **Roger Koenker** (UIUC and UCL) 'Fly-By-Night Life Insurance and the NPMLE for Weibull Frailty Models'
- 2. **Christopher Kinson** (UIUC ) 'Learning from Dr. Martin Luther King Jr: Text analysis and statistical approaches for civil rights'
- 3. **Stanislav Volgushev** (U Toronto) 'Inference on the dependence structure of time series extremes'

### Recent advances in spectral methods for complex data

(ROOM VEC 1202/1203)

Organizer: **Yuekai Sun** (UMich); Chair: **Edgar Dobriban** (Upenn)

- $\hbox{1. } \textbf{Geoff Schiebinger} \ (\text{MIT}) \ \hbox{`Analyzing Developmental Processes with Optimal Transport'}$
- Edgar Dobriban (Wharton) 'How to select the number of components in PCA and factor analysis? Understanding and improving permutation methods'
- 3. **Austin Benson** (Cornell) 'Higher-order spectral graph clustering with motifs'

### New machine learning methods (ROOM VEC 1302)

Organizer & Chair: Annie Qu (UIUC)

- 1. **Quoc Tran-Dinh** (UNC) 'Generalized self-concordant optimization and its applications in statistical learning'
- 2. **Yixin Fang** (New Jersey Institute of Technology) 'On Scalable Inference with Stochastic Gradient Descent'
- 3. **Junhui Wang** (City U. of Hong Kong) 'Scalable Kernelbased Variable Selection with Sparsistency'

### New directions in functional data analysis (ROOM VEC 1402)

Organizer: Tailen Hsing ( UMich); Chair: Vincent Joseph Dorie (Columbia)

- 1. **Kehui Chen** (U of Pitt) 'Nonparametric covariance estimation for mixed longitudinal studies'
- 2. **Matthew Reimherr** (Penn State) 'Functional Data Analysis with Highly Irregular Designs with Applications to Head Circumference Growth'
- 3. **Hao Ni** (UCL) 'Supervised Learning on the Path Space and its Applications'

10:30am - 11:30am

### **Keynote Speech**

**VEC 401 multiple purpose room** 

Liza Levina (University of Michigan)

Matrix completion in network analysis

Chaired by Ying Wei (Columbia)

11:30am - 1:00pm Lunch Break

### End of the Conference

### June 6th, Wednesday, Afternoon

at VEC Lobby

Break

Coffee

3:15pm

2:45pm

### 1:15pm - 2:45pm

### Modern Approaches for Inference and Estimation

### (ROOM VEC 404/405)

Organizer & Chair: Genevera Allen (Rice)

- $\hbox{1. {\bf Yang Ning} (Cornell) `High-Dimensional Propensity Score Estimation via Covariate Balancing'}\\$
- 2. **Gautam Dasarthy** (Rice University) 'Interactive algorithms for graphical model selection'
- 3. **Will Fithian** (UCB) 'AdaPT: An interactive procedure for multiple testing with side information'

### Functional and high dimensional data

### (ROOM VEC 1403)

Organizer & Chair: Aurore Delaigle (U of Melbourne)

- Emad Abdurasul (James Madison University) 'Small Sample Confidence Intervals for the ACL (Abduskhurov, Cheng, and Lin) Estimators Under the Proportional Hazards Model'
- 2. **Sophie Dabo-Niang** (Université Lille 3)' Binary functional linear models in a stratified sampling setting'
- 3. **Patrice Bertail** (Université Paris Nanterre) 'Functional CLT and sharp bounds for some (conditional Poisson) survey sampling plans with applications to big (tall) data'

### Machine learning, classification and designs (ROOM VEC 1202 /1203)

Organizer & Chair: Annie Qu (UIUC)

- 1. **Ying Hung** (Rutgers) 'Efficient Gaussian Process Modeling using Experimental Design-based Subagging'
- 2. **Irina Gaynanova** (Texas A&M) 'Structural Learning and Integrative Decomposition of Multi-View Data'
- 3. **Adam Rothman** (U. of Minnesota) 'Shrinking characteristics of precision matrix estimators'

### Statistics in neuroscience and microbiome research at the Flatiron Institute

### (ROOM VEC 1303)

Organizer & Chair: **Christian L. Müller** (Flatiron Institute, Simons Foundation)

- 1. **Cengiz Pehlevan** (Simons Foundation) 'Neural representation learning as kernel alignment'
- 2. Aditya Mishra (Flatiron Institute) 'Robust regression with compositional covariates'  $\,$
- 3. **Eftychios Pnevmatikakis** (Simons Foundation) 'Online deconvolution and demixing of calcium imaging data in real time'

### Recent Advances in Statistical Network, Functional and High-dimensional Data Analysis

### (ROOM VEC 1402)

Organizer: Ji Zhu (Umich); Chair: Yujia Deng (UIUC)

- 1. **George Michailidis** (U of Florida) 'Factor Augmented Vector Autoregressive Models under High'
- 2. **Edoardo Airoldi** (Harvard) 'Model-assisted design of experiments on networks and social media platforms'
- 3. **Gareth James** (USC) 'Correcting Selection Bias via Functional Empirical Bayes'

### 3:15pm - 4:45pm

### New insights into classical statistical methods (ROOM VEC 404/405)

Organizer & Chair: Qing Mai (Florida State U)

- 1. **Yiyuan She** (Florida State U) 'Rank-constrained inherent clustering paradigm for supervised and unsupervised learning'
- 2. Yun Yang (Florida State U)

'Fast and Optimal Bayesian Inference via Variational Approximations'

3. **Xin Zhang** (Florida State U) 'An Iterative Penalized Least Squares Approach to Sparse Canonical Correlation Analysis'

### New developments for large complex data (ROOM VEC 902)

Organizer & Chair: Annie Qu (UIUC)

- 1. Jiwei Zhao (SUNY, Buffalo) 'Point and Interval Estimations for Individualized MCID'  $\,$
- 2. **Doug Simpson** (UIUC) 'Robust Probabilistic Classification for Irregularly Sampled Functional Data'
- 3. **Francesca Petralia** (Mount Sinai) 'A new method for constructing gene co-expression networks based on samples with tumor purity heterogeneity'

### Statistical inference and complex data structures (ROOM VEC 1303)

Organizer: Eric Laber (NCSU); Chair: Yubai Yuan (UIUC)

- 1. **Kristin Linn** (UPenn) 'Inter-modal Coupling: A Class of Measurements for Studying Local Covariance Patterns Among Multiple Imaging Modalities'
- 2. **Jeff Goldsmith** (Columbia University) 'Modeling Heterogeneity in Motor Learning using Heteroskedastic Functional Principal Components'
- 3. **Yichi Zhang** (Harvard) 'Prior Adaptive Semi-supervised Learning with Application to Electronic Health Records Phenotyping'

### Causal inference and statistical learning (ROOM VEC 1402)

Organizer & Chair: Cynthia Rudin (Duke)

- 1. **Chris Wiggins** (Columbia & NY Times) 'Teaching History and Ethics of Data, with Python'
- 2. **Ben Letham** (Facebook data science) 'Bayesian optimization and A/B tests'
- 3. **Alex Volfovsky** (Duke) 'Causal inference from complex observational data'