

**IMS Young Mathematical Scientists Forum —  
Statistics and Data Science  
(20 Nov 2023–23 Nov 2023)**



**Venue**

IMS Auditorium  
Institute for Mathematical Sciences  
3 Prince George's Park  
Singapore 118402

**ORGANIZING COMMITTEE**

**Chair**

Alexandre Thiéry  
NUS

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**Monday, 20 November 2023**

<b>Time</b>	<b>Title</b>	<b>Speaker</b>
0900–0920	Registration	
0920–0945	Understanding modern machine learning models through the lens of high-dimensional statistics	Denny Wu University of Toronto, Canada
0945–1010	An algorithmic stability perspective on heavy-tails SGD	Anant Raj University of Illinois at Urbana-Champaign, USA
1010–1030	<i>Group Photo &amp; Coffee Break</i>	
1030–1055	MDI+: A Flexible Random Forest-Based Feature Importance Framework	Yan Shuo Tan National University of Singapore, Singapore
1055–1120	A Model-Agnostic Graph Neural Network for Integrating Local and Global Information	Wenzhuo Zhou University of California, Irvine, USA
1120–1145	Community Detection in General Hypergraph via Graph Embedding	Yaoming Zhen The Chinese University of Hong Kong, China
1145–1400	<b>Lunch Break</b>	
1400–1425	The Limits of Algorithm Evaluation and Comparison	Yuetian Luo University of Chicago, USA
1425–1450	Simultaneous false discovery proportion bounds via knockoffs and closed testing	Jinzhou Li Stanford University, USA
1450–1510	<i>Coffee Break</i>	
1510–1535	Causal Discovery from Multivariate Functional Data	Yang Ni Texas A&M University, USA
1535–1600	Estimation of Individualized Combination Treatment Rule	Qi Xu University of California, Irvine, USA
1600–1625	Simultaneous inference for generalized linear models with unmeasured confounders	Jin-Hong Du Carnegie Mellon University, USA

**Tuesday, 21 November 2023**

<b>Time</b>	<b>Title</b>	<b>Speaker</b>
0845–0900	Registration	

Tuesday, 21 November 2023		
Time	Title	Speaker
0900–0925	On using diffusion models for sampling	Hai Dang Dau Oxford University, UK
0925–0950	Posterior Sampling from the Spiked Models via Diffusion Processes	Yuchen Wu Stanford University, USA
0950–1015	An Exact Sampler for Inference after Polyhedral Selection	Sifan Liu Stanford University, USA
1015–1035	<i>Coffee Break</i>	
1035–1100	Random Graph Asymptotics for Treatment Effect Estimation under Network Interference	Shuangning Li Harvard University, USA
1100–1125	Harnessing Extra Randomness: Replicability, Flexibility and Causality	Richard Guo University of Cambridge, UK
1125–1145	TBA	Dongming Huang National University of Singapore, Singapore
1145–1400	<b>Lunch Break</b>	
1400–1425	Challenges of the inconsistency regime: Novel debiasing methods for missing data models	Michael Celentano University of California, Berkeley, USA
1425–1450	Two Sample Inference for Random Objects using Metric Profiles	Paromita Dubey University of Southern California, USA

Wednesday, 22 November 2023		
Time	Title	Speaker
0845–0900	Registration	
0900–0925	Causal Matrix Completion	Anish Agarwal Columbia University, USA
0925–0950	Distribution-invariant differential privacy	Xuan Bi University of Minnesota, USA
0950–1015	Statistical tools for auditing machine learning algorithms across subgroups and time	Jean Feng University of California, San Francisco, USA
1015–1035	<i>Coffee Break</i>	
1035–1100	Bayesian fixed-domain asymptotics for covariance parameters in spatial Gaussian process models	Cheng Li National University of Singapore, Singapore
1100–1125	Fast Approximation and Optimal Contraction for Vecchia Gaussian Processes	Yichen Zhu Bocconi University, Italy

Wednesday, 22 November 2023		
Time	Title	Speaker
1125-1150	High dimensional asymptotics: some recent progress beyond Gaussian designs	Qiyang Han Rutgers University, USA
1150-1400	<b>Lunch Break</b>	
1400-1600	<u>Excursion</u> Guided Tour: Asian Civilisations Museum <i>1-way transfer is provided</i>	

Thursday, 23 November 2023		
Time	Title	Speaker
0845-0900	Registration	
0900-0925	Approximate message passing from random initialization with applications to Z2 synchronization	Gen Li Chinese University of Hong Kong, Hong Kong, China
0925-0950	Robust Unsupervised Multi-task Learning on Gaussian Mixture Models	Ye Tian Columbia University, USA
0950-1015	Markov chains + X: Markov chain entropy games and the geometry of their Nash equilibria	Michael Choi National University of Singapore, Singapore
1015-1035	<i>Coffee Break</i>	
1035-1100	High Dimensional Logistic Regression Under Network Dependence	Somabha Mukherjee National University of Singapore, Singapore
1100-1125	Maximum likelihood for high-noise group orbit estimation and cryo-EM	Sheng Xu Princeton University, USA
1125-1150	Uncertainty quantification for varying dimensional parameters	Maoran Xu Duke University, USA
1150-1400	<b>Lunch Break</b>	
1400-1425	Backfitting for large scale crossed random effects regressions	Swarnadip Ghosh Radix Trading, LLC, USA
1425-1450	Switchback Experiments under Geometric Mixing	Yuchen Hu Stanford University, USA
Kindly proceed to the Dept. of Mathematics Block S17 Level 4 Room #04-06		
1600-1700	<i>Distinguished Lecture Series in Statistics</i> Statisticians at Work: Inspiration, Aspiration, Ambition	Jeff Wu Georgia Institute of Technology, USA
1700-1730	Tea Reception @ Lounge	
1740-2000	Closing Gala Dinner Location: Crystal Jade Pavillion @Vivocity <i>1-way transfer is provided</i>	