

Modern Challenges in Data Decentralization: Federated Learning, Differential Privacy and Communication Constraints

Workshop One on Data robustness
(06–10 July 2026)



ORGANIZING COMMITTEE

Tony Cai
University of Pennsylvania

Yang Feng
New York University

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National University of Singapore

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Venue

IMS Executive Seminar Room
Bock S17, Level 3
10 Lower Kent Ridge Rd Singapore 119076

For more information: <https://ims.nus.edu.sg/events/modernchallenges/>

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Monday, 06 July 2026

Time	Title	Speaker
1030–1130	Differentially Private Estimation and Inference for Spatial Autoregressive Models	Huang Danyang <i>Renmin University of China, China</i>
1130–1400	<i>Lunch Break</i>	
1400–1500	Robust Multi-task Learning for Principal Component Analysis	Haolei Weng <i>Southern University of Science and Technology, China</i>
1500–1530	<i>Coffee Break</i>	
1530–1630	Trustworthy Learning across Heterogeneous Data: Differential Privacy and Adversarial Contamination	Mengchu Li <i>University of Birmingham, UK</i>

Tuesday, 07 July 2026

Time	Title	Speaker
0900–1000	Beyond Worst-case Bounds in DP Analytics: Instance Optimality and Learning-augmented Queries	Ziteng Sun <i>Google Research, New York, USA</i>
1000–1030	<i>Group Photo & Coffee Break</i>	
1030–1130	Double Robustness vs. Double Flexibility in Unsupervised Domain Adaptation	Jiwei Zhao <i>University of Wisconsin, USA</i>
1130–1400	<i>Lunch Break</i>	
1400–1500	Order-Optimal 1-Bit Mean Estimation	Jonathan Mark Scarlett <i>National University of Singapore, Singapore</i>
1500–1530	<i>Coffee Break</i>	
1530–1630	Efficient Machine Unlearning with Minimax Optimality	Sai Li <i>Tsinghua University, China</i>

Wednesday, 08 July 2026

Time	Title	Speaker
0900–1000	Collaborative Learning Frameworks for Multi-Site Data Networks	Rui Duan <i>Harvard University, USA</i>
1000–1030	<i>Coffee Break</i>	
1030–1130	Transfer and Multi-Task Learning: Statistical Insights for Modern Data Challenges	Yang Feng <i>New York University, USA</i>
1130–1330	<i>Lunch Reception at IMS</i>	

Wednesday, 08 July 2026			
Time	Title		Speaker
1600–1800	<u>Group Outing: Gardens By the Bay</u> 1-way transfer is provided departing from Park Avenue Rochester at 3.30 pm		
Thursday, 09 July 2026			
Time	Title		Speaker
0900–1000	Efficient Differentially Private Regression Inference for Longitudinal Data		Marco Avella Medina <i>Columbia University, USA</i>
1000–1030	Coffee Break		
1030–1130	Observation-Level Watermarking and Detection for Tabular Data		Bi Xuan <i>University of Minnesota, USA</i>
1130–1400	Lunch Break		
1400–1500	Trans-MA: Sufficiency-principled Transfer Learning via Model Averaging		Huihang Liu <i>Shanghai University of Finance and Economics, China</i>
1500–1530	Coffee Break		
1530–1630	Optimal Learning for Fairness-Aware Contextual Bandits		Gengyu Xue <i>University of Warwick, UK</i>
Friday, 10 July 2026			
Time	Title		Speaker
0900–1000	Robust Bayesian Inference		Botond Szabo <i>Bocconi University, Italy</i>
1000–1030	Coffee Break		
Short Talk			
1030–1130	Elly Hung <i>University of Warwick, UK</i>	Sara Pinciroli <i>Bocconi University, Italy</i>	Banerjee Tathagata <i>National University of Singapore, Singapore</i>
1130–1400	Lunch Break		
1400–1500	ePTR: A Bridge to DP Estimation		Xin Tong <i>National University of Singapore, Singapore</i>
1500–1530	Coffee Break		
1530–1630	Sample-Efficient and Low-Cost Model-Free Reinforcement Learning		Lingzhou Xue <i>The Pennsylvania State University, USA</i>