

IJTCS-FAW 2024

The Hong Kong Polytechnic University, Hong Kong, China

July 29 - July 31, 2024



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Prudence Wong	The University of Liverpool

Track B Blockchain Theory and Technology

Man Ho Allen Au	Hong Kong Polytechnic University
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Biaoshuai Tao	Shanghai Jiao Tong University

Track D Learning Theory

Jian Li	Tsinghua University
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Track E Quantum Computing

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Jialin Zhang	Chinese Academy of Sciences

Track F Multi-agent Learning, Multi-agent System, Multi-agent Games

Wenxin Li	Peking University
Haifeng Zhang	Chinese Academy of Sciences

Track G Mechanism Design in Digital Economy

Xiaotie Deng Peking University

Track S Selected Papers from 2024 CCF Annual Meeting on Computational Economics

Bo Li Peking University

Feng Wang Wuhan University

Dengji Zhao ShanghaiTech University

Young Researchers Forum

Shaofeng Jiang Peking University

Female Forum

Qi Qi Renmin University of China

Student Forum

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Program Overview

	July 29		July 30		July 31	
8:30-9:00	Opening Ceremony (M1603)					
9:00-10:00	Keynote 1 (M1603)		Keynote 2 (M1603)		Keynote 3 (M1603)	
10:00-10:30	Tea Break					
10:30-11:30	Learning Track (M1603)		CSIAM forum (M1603)		Quantum Track (M1603)	
11:30-12:30			Multi-Agent Track (M1603)			
12:30-14:00	Lunch Break Ju Yin House Seafood Restaurant					
14:00-15:30	Young Researchers forum (M1603)		Student Forum (M1603)		Digital Economy Track (M1603)	
15:30-16:00					Student Forum (M1603)	
16:00-16:30	30-min Tea Break		Blockchain Track (M1603)		20-min Tea Break	
16:30-17:30	Accepted Papers (M1603)	Accepted Papers (M1410)			Accepted Papers (M1603)	Accepted Papers (M1410)
17:30-18:00			Banquet			
18:00-19:00	Dinner Break				Closing Ceremony	
19:00-20:00	Female Forum					
20:00-21:00	Business Meeting					

Detailed Schedule

July 29, Monday	
8:30-9:00	Welcome Speech: Qing Li Opening Speech: Xiaotie Deng Group Photo
Keynote Speech (Chair: Xiaoming Sun)	
9:00-10:00	Ding-Zhu Du Revisit Golovin-Krause Conjecture
10:00-10:30	Tea Break
Track D Learning Theory (Chair: Jian Li)	
10:30-11:10	Zengfeng Huang Machine Learning Under Limited Memory
11:10-11:50	Xiao Li High-Probability Guarantees for Random Reshuffling
11:50-12:30	Difan Zou Implicit Bias of Learning Separable Data: the Role of Optimization Algorithm and Model Architecture
12:30-14:00	Lunch Break Ju Yin House Seafood Restaurant (4/F, Communal Building)
Young Researchers Forum (Chair: Shaofeng Jiang)	
14:00-14:30	Chenyang Xu Polylogarithmic Approximations for Robust s-t Path
14:30-15:00	Kun He Sampling Permutations Satisfying Conjunctive Constraints in the Local Lemma Regime
15:00-15:30	Jie Xue A 1.9999-Approximation for Vertex Cover on String Graphs
15:30-16:00	Zhijie Zhang Bandit Multi-linear DR-Submodular Maximization and Its Applications on Adversarial Submodular Bandits
16:00-16:30	Tea Break

July 29, Monday (Cont.)

Accepted Papers

	Session A (M1603) Chair: Zhihao Tang	Session B (M1410) Chair: Biaoshuai Tao
16:30-16:45	Zhen Zhang, Limei Liu, Yao Liu, Jie Chen and Qilong Feng. Clustering with a Knapsack Constraint: Parameterized Approximation Algorithms for the Knapsack Median Problem. Track A Best Paper	Jasmine Siu Lee Lam and Kee Wei Lee. Blockchain Technology for Digital Asset Ownership.
16:45-17:00	Houshuang Chen, Yuchen He and Chihao Zhang. On the Problem of Best Arm Retention.	Huili Liang, Xiao Wang, Yechao Wei and Pingfan Wu. From Evolutionary Game Dynamics to Non-negative Matrix Factorization: Acceleration with Hessian Geometry.
17:00-17:15	Biaoshuai Tao, Xiaowei Wu, Ziqi Yu and Shengwei Zhou. On Existence of EFX (and Pareto-Optimality) for Binary Chores.	Christine Chung, Leo Claney, Eric Huber, Michelle Le, Brian MacSweeney, Chloe Nguyen and Krishh Tipnis. A case for Copeland: from theory to practice.
17:15-17:30	Kazumasa Shinagawa, Daiki Miyahara and Takaaki Mizuki. How to Play Old Maid with Virtual Players	Hao Xu, Jinshan Zhang and Feng Wang. Deterministic and Universal Truthful Mechanism for Fair Matching.
17:30-17:45	Nicolás Honorato-Droguett, Kazuhiro Kurita, Tesshu Hanaka and Hirotaka Ono. Algorithms for Optimally Shifting Intervals under Intersection Graph Models	Benjamin Estermann, Stefan Kramer, Roger Wattenhofer and Kanye Ye Wang. Active Learning Supported Iterative Combinatorial Auctions.
17:45-19:00	Dinner Break	
Female Forum (Chair: Qi Qi)		
19:00-20:00	Panel: Wenxin Li, Jialin Liu, Qi Qi, Yingjie Xue, Jialin Zhang	
20:00-21:00	Business Meeting	

July 30, Tuesday	
Keynote Speech (Chair: Allen Au)	
9:00-10:00	Maurice Herlihy A Distributed Computing view of Decentralized Finance
10:00-10:30	Tea Break
CSIAM Forum (Chair: Jichen Li)	
10:30-11:00	Allen Au Privacy-Enhancing Technologies for Central Bank Digital Currency: Blockchain Applications and Insights
11:00-11:30	Ming Li Blockchain-enabled medical data asset sharing for constructing large medical models
Track F Multi-agent Learning, Multi-agent System, Multi-agent Games (Chair: Wenxin Li)	
11:30-12:00	Hau Chan Aggregate Games: Computations and Applications
12:00-12:30	Ling Pan Towards Robust, Efficient and Practical Decision Making: From Reward-Maximizing Deep Reinforcement Learning to Reward-Matching GFlowNets
12:30-14:00	Lunch Break Ju Yin House Seafood Restaurant (4/F, Communal Building)
Student Forum (Chair: Ruilong Zhang)	
14:00-14:20	Zhaohua Chen Are Bounded Contracts Learnable and Approximately Optimal?
14:20-14:40	Yuda Feng A Constant-Factor Approximation Algorithm for Weighted Nash Social Welfare with Additive Valuations

July 30, Tuesday (Cont.)	
14:40-15:00	Yuchen He Understanding Memory-Regret Trade-Off for Streaming Stochastic Multi-Armed Bandits
15:00-15:20	Qipeng Kuang Bridging Weighted First Order Model Counting and Graph Polynomials
15:20-15:40	Fangxiao Wang Fair Allocation of Indivisible Chores: Beyond Additive Costs
15:40-16:00	Tea Break
Track B Blockchain Theory and Technology (Chair: Allen Au)	
16:00-16:30	Sisi Duan Blockchain Security and Economic Incentives
16:30-17:00	Chenxing Li Transaction Deduplication for Graph-based Blockchains
17:00-17:30	Xingye Lu Zero-Knowledge Proof In Blockchain Technology
<p>Banquet</p> <p>Hung Kee Seafood Restaurant, Sai Kung</p> <p>Return Trip Coaches: Gather at the pick-up point outside S Core before 5:45 pm. Depart from PolyU at 5:45 pm. Return from the restaurant at 9:00 pm.</p>	

July 31, Wednesday	
Keynote Speech (Chair: Minming Li)	
9:00-10:00	Pinyan Lu Mechanism Design with Predictions
10:00-10:30	Tea Break
Track E Quantum Computing (Chair: Kun He)	
10:30-11:00	Yuxin Deng Local Reasoning about Probabilistic Behaviour for Classical-Quantum Programs
11:00-11:30	Dingshun Lv Beyond VQE: A new perspective towards quantum computational chemistry
11:30-12:00	Xin Wang Quantum Advantage in Reversing Unknown Unitary Evolutions
12:00-12:30	Shenggen Zheng Advantage of quantum computing on time-space complexity
12:30-14:00	Lunch Break Ju Yin House Seafood Restaurant (4/F, Communal Building)
Track G Mechanism Design in Digital Economy (Chair: Xiaotie Deng)	
14:00-14:30	Yukun Cheng Algorithmic Equilibrium Challenges in the Digital Economy
14:30-15:00	Yiding Feng Robust Dynamic Staffing with Predictions
15:00-15:30	Yaonan Jin Benchmark-Tight Approximation Ratio of Simple Mechanism for a Unit-Demand Buyer
Student Forum (Chair: Ruilong Zhang)	
15:30-15:50	Wenqian Wang Algorithms for the Generalized Poset Sorting Problem
15:50-16:10	Mingwei Yang Stochastic Online Metric Matching: Adversarial is no Harder than Stochastic
16:10-16:30	Tea Break

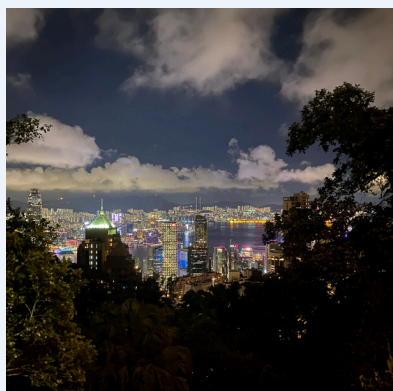
July 31, Wednesday (Cont.)

Accepted Papers

	Session A (M1603) Chair: Bo Li	Session B (M1410) Chair: Prudence Wong
16:30-16:45	Xiaotie Deng, Dongchen Li and Hanyu Li. On the Optimal Mixing Problem of Approximate Nash Equilibria in Bimatrix Games. Track C Best Paper	Haoqi Wang. On the Fine-grained Complexity of Approximating Max k-Coverage.
16:45-17:00	Ken Fong, Xingchen Sha, Hau Chan, Vincent Chau and Wai Lun Lo. Randomized Strategyproof Mechanisms for Multi-stage Facility Location Problem with Capacity Constraints.	Dongyu Lv, Yizhi Song and Chao Xu. Nested and Interlaced Ticketing for Multiple Travelers.
17:00-17:15	Yuanyuan Wang, Xin Chen, Qizhi Fang, Qingqin Nong and Wenjing Liu. Finding Fair and Efficient Allocations Under Budget Constraints.	Tiantian Li, Haitao Jiang, Lusheng Wang and Daming Zhu. Longest (k)-tuple Common Substrings.
17:15-17:30	Xinlan Xia, Lu Han and Lili Mei. Constant-Factor Approximation Algorithms for Parity-Constrained k-Supplier.	Song Cao and Kai Jin. Scheduling two types of jobs with minimum makespan.
17:30-17:45	Qinqin Gong, Ling Gai, Yijing Wang, Dachuan Xu and Ruiqi Yang. Approximating Principal-Agent Problem under Bayesian.	Weian Li and Yu Zhou. Locating Two Facilities on a Square with a Minimum Distance Requirement.
17:45-18:00	Baoyi Duan, Lu Han, Sai Ji and Lili Mei. Robust Facility Leasing Problem with Penalties.	Tingting Meng, Yukun Cheng, Xujin Pu and Rui Li. Equilibrium Strategies of Carbon Emission Reduction in Agricultural Product Supply Chain under Carbon Sink Trading.
	Closing Ceremony	

Explore Hong Kong

Hong Kong is a wonderful place combining the beauty of city and nature, east and west. Further, all the attractions are not far away from each other. No matter you like citywalk, hiking, visiting museum, lying on the beach etc, you will find Hong Kong very enjoyable. Take your time exploring Hong Kong during the break of conference!



The Peak

One of famous must-visit places in HK. You can take Peak Tram. The Peak is not high, thus you can also climb it.



Sai Kung

Known as “Back-garden of HK”. Famous for seafood, hiking trails, beaches etc.



“10 must-do experiences for visitors in Hong Kong”



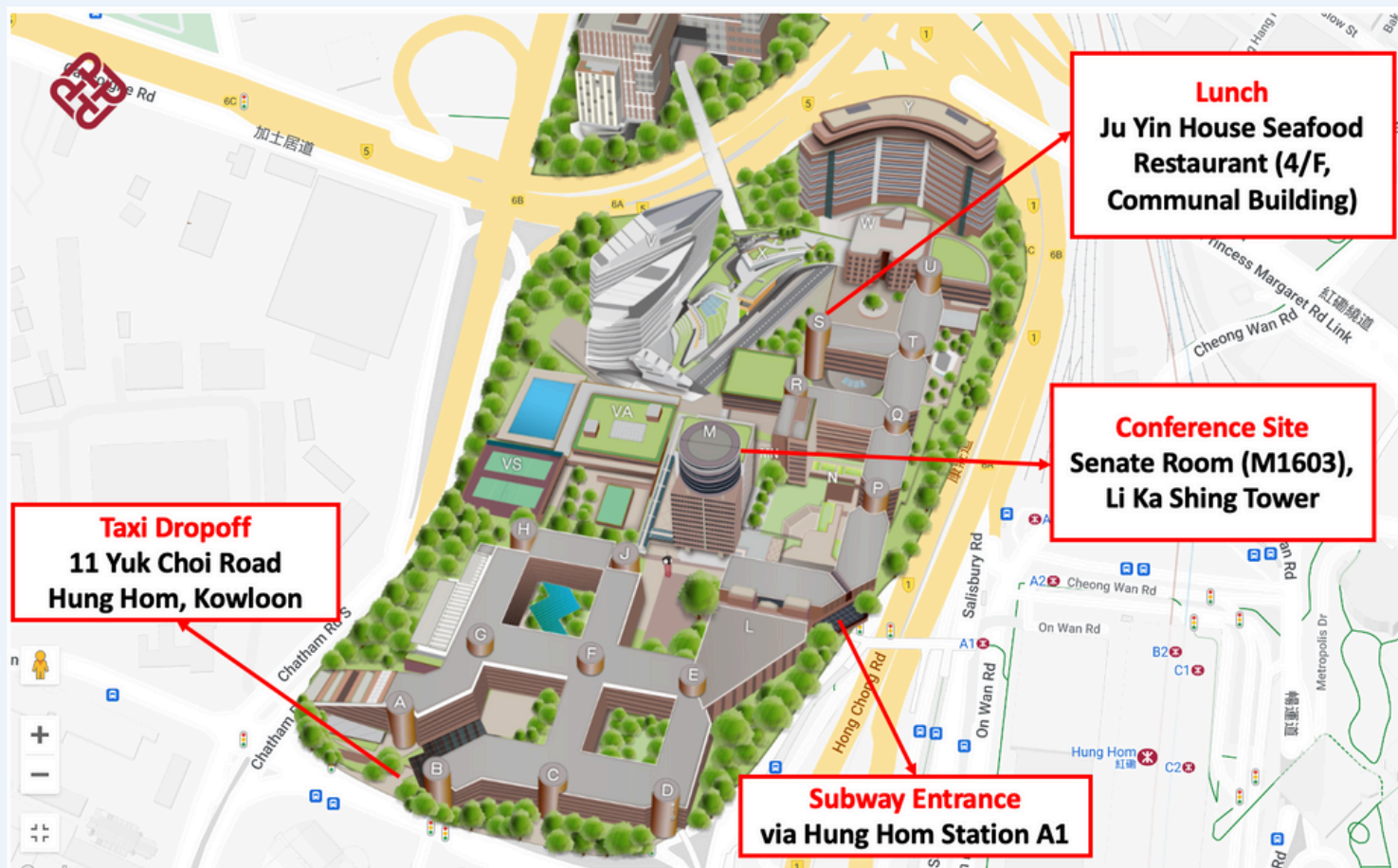
Find out more at
HK Tourism Board





Explore PolyU



MAP



 <https://ijtcs2024.comp.polyu.edu.hk>

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