山东大学
SHANDONG UNIVERSITY

2026 TAMC

20TH ANNUAL CONFERENCE
Theory and Applications of Models of Computation

CONFERENCE BOOK

Hosted by:
Shandong University

Organized by:
School of Computer Science and Technology, Shandong University



13-15 Nov, 2026 | Qingdao, China

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Conference Program

13-15 November 2026 | All times are China Standard Time UTC+8

Time	Program	Venue
13 Nov.		
14:00-20:00	Registration	
17:30-20:30	Welcome Dinner	Tang All Day Dining, Ground Floor
14 Nov.		
09:00-09:10	Opening Remarks	Lecture Hall, First Floor
09:10-10:10	Keynote 1 Ran Duan	
10:10-10:40	Tea Break	
10:40-11:40	Keynote 2 Shaofeng Jiang	
11:40-14:00	Lunch and Break	Tang All Day Dining, Ground Floor
14:00-16:00	Session I / Session II	Session I Room: Function 2A Session II Room: Function 3 First Floor
16:00-16:20	Tea Break	
16:20-18:20	Session I / Session II	
18:20	Conference Banquet	Lecture Hall, First Floor
15 Nov.		
08:30-10:10	Session III / Session IV	Session III Room: Function 2A Session IV Room: Function 3 First Floor
10:10-10:30	Tea Break	
10:30-12:10	Session III / Session IV	
12:10	Lunch	Tang All Day Dining, Ground Floor
Afternoon	**Departure**	

Lecture Hall, Function 2A and Function 3 are on the first floor of the conference center. Tang All Day Dining is on the ground floor of Oceantec Valley Hotel Qingdao.

Invited Speakers

KEYNOTE SPEAKER



Ran Duan

Tsinghua University, China

TALK

Nearly Optimal Multi-Failure Replacement Paths

Abstract

Given a directed graph G and fixed terminals s, t in G, the f-failure replacement paths (f-FRP) problem is to compute the distance from s to t avoiding edges in F, for every set F of at most f failed edges. Thus for f-FRP problem we may need to compute $\Theta(n^f)$ distances. Classic result [Vassilevska Williams and Williams, FOCS 2010] showed that directed 1-FRP is subcubically equivalent to all-pair shortest paths (APSP) problem, thus the straightforward algorithm of $O(n^3)$ time is nearly optimal. In this talk we will talk about recent results on 2-FRP and 3-FRP algorithms for directed graphs in $\tilde{O}(n^3)$ time [Vassilevska Williams, Woldeghebriel and Xu, FOCS 2022][Ding, Duan, Wu, Zhang, Zhou, SODA 2027], where the 3-FRP algorithm is optimal up to logarithmic factors.

Biography

Ran Duan received his B.S. degree in Computer Science at Tsinghua University in 2006, and his M.S. and Ph.D. degrees in Theoretical Computer Science at University of Michigan, Ann Arbor (under the instruction of Prof. Seth Pettie). Then he held a postdoctoral researcher position in Max-Planck-Institut für Informatik in Germany until 2014, supported by Alexander von Humboldt fellowship. In Aug 2014, he becomes a faculty member in IIIS, Tsinghua University. His research interest focuses on graph algorithms, data structures, and computational theory.

Invited Speakers Continued

KEYNOTE SPEAKER



Shaofeng Jiang

Peking University, China

TALK

Near-linear time tree embedding in normed spaces

Abstract

Tree embedding is a powerful method for algorithm design, which maps a general metric to a tree metric, so that it suffices to solve a computational problem only on the tree which is much simpler. While it is often possible to obtain near-linear time algorithms on the resultant tree, unfortunately, it may not translate to a near-linear time approximation overall, since constructing the tree embedding can be slow. For instance, in general metrics, the seminal FRT construction that achieves the optimal distortion runs in quadratic time only, and in ℓ_p spaces this task currently requires $n^{1+\varepsilon}$ running time (for small $\varepsilon > 0$).

In this talk, we fill in this gap and introduce a new near-linear $\tilde{O}(nd)$ time algorithm to construct tree embedding with optimal distortion for n points in d-dimensional ℓ_1 metric. We discuss how this construction can be generalized to ℓ_p metrics for every fixed p. We conclude by mentioning related open questions in the area.

Based on a joint work with Jianing Lou.

Biography

Shaofeng Jiang is an assistant professor in Peking University. He obtained his PhD from University of Hong Kong, and before joining PKU he worked as a postdoc at Weizmann Institute of Science and an assistant professor at Aalto University. His research interest is theoretical computer science, with a recent focus on algorithms for metric spaces. He has been serving as PCs for recent relevant conferences including STOC, SODA and ICALP.

Presentation Schedule

Session I | Room: Function 2A

14 November 2026 | 14:00-18:20

First floor of the conference center, Oceantec Valley Hotel Qingdao

Time	Paper Title and Presenter	Chair
Session I | Room: Function 2A		
14:00-14:20	#1 Improved Approximation Algorithms for Squared-Metric Facility Location with Outliers Zhen Zhang (Hunan University of Technology and Business)	Yangguang Shi
14:20-14:40	#18 Approximation for Multi-Type Competitive Facility Location under a TMNL-Based Choice Rule Xiaoyu Shao (Beijing University of Technology)	
14:40-15:00	#39 A Sharp Service-Radius Threshold for Random-Order Online Facility Location with Prescribed Sites Mengzhen Li (Beijing University of Technology)	
15:00-15:20	#48 Minimum-Load Location on a Bidirected Path Guihao Wang (Beijing University of Technology)	
15:20-15:40	#9 Mechanism Design for Bridge Location with Optional Preferences Xiaoshuang Geng (Ocean University of China)	
15:40-16:00	#15 An Optimal Universally Strategyproof Mechanism for Non-Optional Obnoxious Two-Facility Location with Candidate Locations Xiaowei Li (Changsha University of Science and Technology)	
16:00-16:20	**Tea Break**	
Session I (Continued) | Room: Function 2A		
16:20-16:40	#10 An Approximation Algorithm for Minimum Weight Partial Connected Vertex Cover in Unit Disk Graphs Zengwei Chen (Zhejiang Normal University)	Yaqiao Li
16:40-17:00	#11 On the minimum line-fixed k-Steiner tree problem Huijuan Yang (Yunnan University)	
17:00-17:20	#13 On the bidirection-constrained windy postman problem Shuang Ge (Yunnan University)	
17:20-17:40	#53 Pure-DP Metric k-Median with Linear-in-k Error Xiang Li (Hebei University of Technology)	
17:40-18:00	#36 Online hierarchical extensible bin packing with three bins Zhikang Zhang (Yunnan University)	
18:00-18:20	#16 Fairness Meets Knapsack: Bicriteria Approximation Algorithms for Fair Submodular Maximization Mingchao Zhou (Zhejiang Normal University)	

Session II | Room: Function 3

14 November 2026 | 14:00-18:20

First floor of the conference center, Oceantec Valley Hotel Qingdao

Time	Paper Title and Presenter	Chair
Session II | Room: Function 3		
14:00-14:20	#50 Two Exact Quantum Queries Use at Most Six Variables Yaqiao Li (Shenzhen University of Advanced Technology)	Lili Mei
14:20-14:40	#67 On Languages Recognized by a Finite Automaton with 1QFA and 2PFA Parts Kamil Khadiev (Kazan Federal University)	
14:40-15:00	#43 Card-Based Zero-Knowledge Proofs for n-Queens Completion Problem Shota Ikeda (Ibaraki University)	
15:00-15:20	#27 Strictly Unfriendly k-Partitions: Sharp Degree Thresholds and ETH-Based Lower Bounds Haoyun Tang (National University of Singapore)	
15:20-15:40	#46 Regular Games on Undirected Graphs are as Hard as on Directed Graphs Ivan Adrian Koswara (National University of Singapore)	
15:40-16:00	#41 Recursive Bounds for the Frobenius Number via Apery Sets Xinru Zhu (Beijing University of Posts and Telecommunications)	
16:00-16:20	**Tea Break**	
Session II (Continued) | Room: Function 3		
16:20-16:40	#47 Color spanning problems for line segments and points under static and dynamic setup: Query version Sanjib Sadhu (National Institute of Technology Durgapur)	Yixin Cao
16:40-17:00	#24 Parameterized Approximation Algorithms for Minimum Weighted Dominating Set Peihua Li (Shandong University)	
17:00-17:20	#51 On Kernelization for Bipartite Crossing Removal with One-sided Vertex Splitting Yunlong Liu (Hunan Normal University)	
17:20-17:40	#12 Maximum k-Dominating Set in Vertex-Arrival Streams Huifei Dai (Zhejiang Normal University)	
17:40-18:00	#58 A Near-Linear-Time Algorithm for Minimum Dominating Set on Convex Bipartite Graphs Zexu Yang (Central South University)	
18:00-18:20	#64 Certifying Recognition of Interval Graphs Using Graph Searches Yixin Cao (The Hong Kong Polytechnic University)	

Session III | Room: Function 2A

15 November 2026 | 08:30-12:10

First floor of the conference center, Oceantec Valley Hotel Qingdao

Time	Paper Title and Presenter	Chair
Session III | Room: Function 2A		
08:30-08:50	#35 Efficient Streaming Algorithms for Submodular Maximization under d-Dimensional Knapsack Constraints Shufang Gong (Shandong Technology and Business University)	Ankang Sun
08:50-09:10	#56 Submodular Maximization under a Convex Quadratic Knapsack Constraint Jiahe Wang (Beijing University of Technology)	
09:10-09:30	#26 SubDoc: Heterogeneous-Cost Submodular Selection for Multimodal Document Summarization Dongzhao Wang (Beijing University of Technology)	
09:30-09:50	#57 Prophet Inequalities for Online Knapsack and Assignment under Markov Random Field Guihao Wang (Beijing University of Technology)	
09:50-10:10	#5 Approximation Algorithms for Parallel Machine Scheduling with Rejection and Cost Constraint Neng Ouyang (Yunnan University)	
10:10-10:30	**Tea Break**	
Session III (Continued) | Room: Function 2A		
10:30-10:50	#31 Automated Guided Vehicle Scheduling with Flexible Charging Xin Liu (Yunnan University)	Tiantian Li
10:50-11:10	#19 DisZero: Balanced Complementary Submodels for Resource-Adaptive Distributed Zeroth-Order Optimization Mingyi Li (Shandong University)	
11:10-11:30	#8 Decoding LoRA: Path Structural Entropy as a Generalization Signal Ningyuan Gong (Beihang University)	
11:30-11:50	#44 NEST: Locally Certified Search for Structural-Entropy Hierarchies Dingli Su (Beihang University)	

Session IV | Room: Function 3

15 November 2026 | 08:30-12:10

First floor of the conference center, Oceantec Valley Hotel Qingdao

Time	Paper Title and Presenter	Chair
Session IV | Room: Function 3		
08:30-08:50	#6 Chore Allocation under Graph Constraints and Information Asymmetry Yue Tan (Ocean University of China)	Siqi Jiang
08:50-09:10	#30 On the Fairness of Maximum Nash Social Welfare under Cardinality Constraints Huahua Miao (Shenzhen Institutes of Advanced Technology)	
09:10-09:30	#65 The Price of EFX for Binary-Valued Agents under Knapsack Constraints Lili Mei (Hangzhou Dianzi University)	
09:30-09:50	#28 Parallel-Batch Contracts under Hidden Effort and Coarse Completion-Time Monitoring Jiaming Hu (Shandong Management University)	
09:50-10:10	#29 Cost-sharing mechanisms for the capacitated clique partition problem Zhikang Zhang (Yunnan University)	
10:10-10:30	**Tea Break**	
Session IV (Continued) | Room: Function 3		
10:30-10:50	#55 Generating All Triangulations of a Biconnected Plane Graph in Constant Amortized Time Tawkir Aziz Rahman (Bangladesh University of Engineering and Technology)	Xin Tong
10:50-11:10	#7 Toward General Kernelization Techniques for Edge Modification Problems Zhongyi Zhang (Shandong University)	
11:10-11:30	#34 Improved approximation algorithms for packing 3^+- and 4^+-paths Zhi-Zhong Chen (Tokyo Denki University)	
11:30-11:50	#59 Structural-Encoding Algorithms for Phylogenetic Network Isomorphism Xin Zeng (Central South University)	
11:50-12:10	#60 Signed Adjacency Recovery for Flanked Reversals Siqi Jiang (Shandong University)	

Conference Information

The 20th Annual Conference on Theory and Applications of Models of Computation (TAMC 2026) will take place in Qingdao, China, from 13 to 15 November 2026. The conference is hosted by Shandong University.

TAMC 2026 brings together researchers with interests in computational theory, information theory and their applications. The main themes are computability, complexity, algorithms and information theory, including their extensions to machine learning theory and the foundations of artificial intelligence.

Conference Dates and Venue

Dates: 13-15 November 2026

Venue: Oceantec Valley Hotel Qingdao

Address: 168 Binhai Road, Jimo District, Qingdao, Shandong, China

Host and Contact

Host: Shandong University

Email: tamc2026_publication@outlook.com

Travel Information

Arriving by Air

Qingdao Jiaodong International Airport (TAO) is approximately 70-80 km west of Oceantec Valley Hotel Qingdao. For a taxi or ride-hailing journey, use the official taxi pick-up area on the ground floor of the Ground Transportation Center (GTC). The journey takes approximately 60-80 minutes.
By metro, take Line 8, transfer to Line 3, then Line 2 and finally Line 11. Get off at Oceantec Valley Metro Station and use Exit B. Allow approximately 2-2.5 hours for the metro journey.

Arriving by High Speed Train

Qingdao North Railway Station (青岛北站) is approximately 42 km from the hotel. A taxi or ride-hailing journey takes approximately 45-60 minutes.
By metro, take Line 3, transfer to Line 2 and then Line 11 to Oceantec Valley Metro Station, Exit B. The metro journey takes approximately 80 minutes, followed by a 3-minute taxi ride or a 15-minute walk. The station is approximately 1.2 km from the hotel.

Venue and Accommodation

Oceantec Valley Hotel Qingdao

Item	Details
Address	168 Binhai Road, Jimo District, Qingdao, Shandong, China
Telephone	+86-532-55737777
Nearest Metro	Oceantec Valley Metro Station, Line 11, Exit B; approximately 1.2 km from the hotel

Accommodation

The organizing committee can assist with reservations at the conference hotel. Participants may also book nearby hotels independently. To request assistance with the conference hotel, provide the relevant information on the registration form.
Meeting rooms: Lecture Hall, Function 2A and Function 3, first floor of the conference center. Buffet meals: Tang All Day Dining, ground floor of the hotel.

Local Information

Qingdao is a coastal city famed for its European-style architecture, beaches, and Tsingtao beer.

Getting There

Qingdao Jiaodong International Airport (TAO) offers direct flights from major cities worldwide. The airport is approximately 70–80 km west of the conference hotel. Qingdao North Railway Station is approximately 42 km away.

Accommodation

The organizing committee can assist with booking a room at Oceantec Valley Hotel Qingdao. You may also book other hotels nearby. If you would like the committee to book the conference hotel for you, please submit the relevant information on the registration page.

Visa Information

Foreign nationals generally need a Tourist (L) or Business (M) visa before entering China. Please also check whether your country is eligible for China's visa-free entry policies. If you need an invitation letter for your visa application, please complete your registration first, then email tamc2026_publication@outlook.com.

Weather & Climate

Qingdao enjoys a temperate oceanic climate. November is cool and crisp — comfortable weather for an academic conference.

Currency & Payment

The currency is the Chinese Yuan (CNY / RMB). Mobile payments are ubiquitous — we strongly recommend setting up the international versions of Alipay or WeChat Pay before arrival.

Power Adaptor

Standard voltage is 220V, 50Hz AC. Sockets accept Type A (two flat pins), Type C (two round pins), and Type I (three flat pins). Please bring a universal travel adapter.

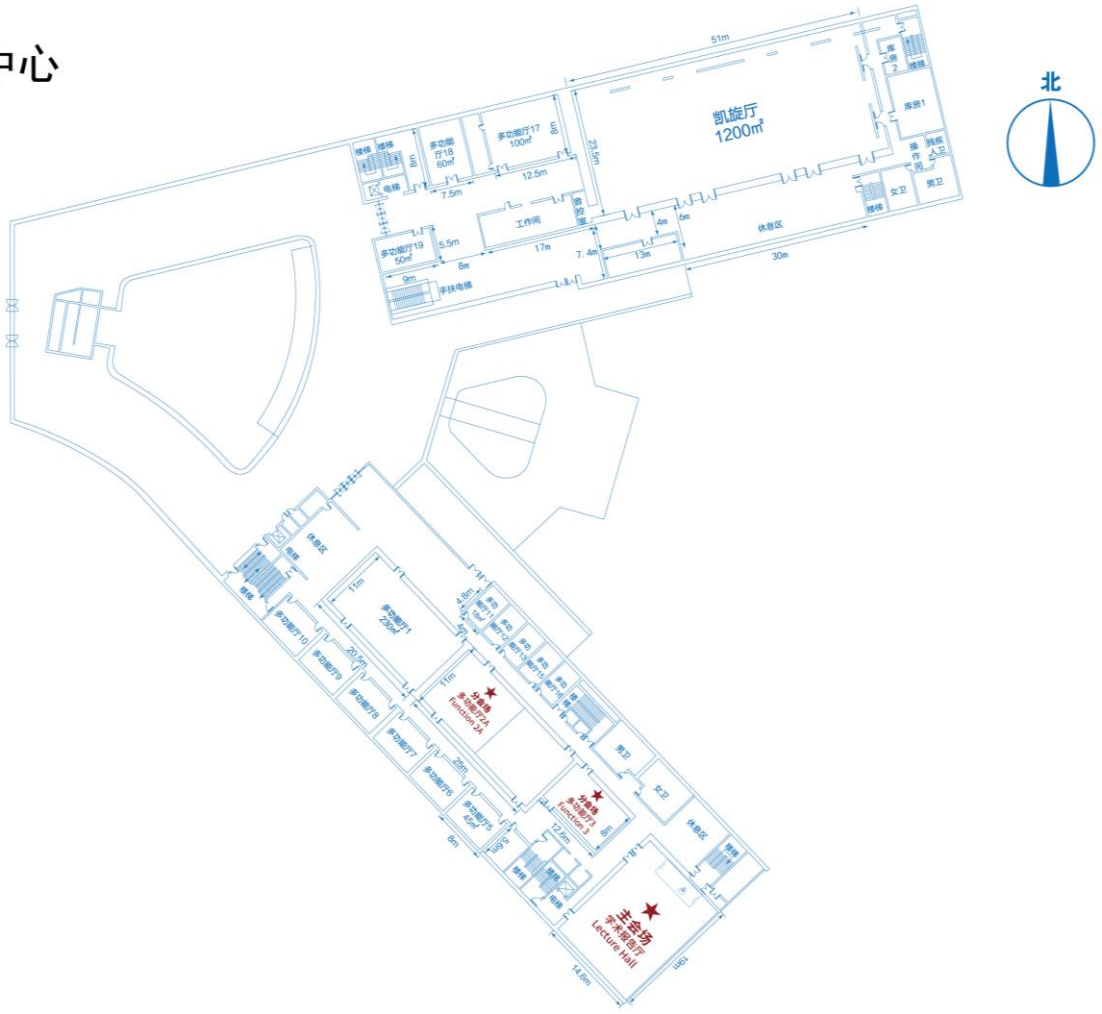
Time Zone

China Standard Time (CST) — UTC/GMT +8 hours. There is no daylight saving time in China.

Internet & Wi-Fi

Campus Wi-Fi (including Eduroam) will be available at the venue. For mobile data, you can easily purchase a local SIM card at the airport. Note that some international websites may require a VPN for access.

会议中心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