

RANDOM-APPROX 2023 Program

Contributed talks are 20 minutes (15m talk + 5m Q&A). Invited talks are 1 hour (+ 10m Q&A)

All the talks will take place in the **Bill Moore Student Success Center (225 North Ave)**.

RANDOM talks and joint sessions: **Clary Theater**.

APPROX talks: **President's Suites A-B**.

Coffee Breaks: "Hall of Success"

(Last updated: September 9, 2023)

RANDOM

APPROX

Monday, September 11

8:30-9:00	Coffee			
Session 1A: Monday, 9:00 AM				
9:00-9:15	Optimal Mixing via Tensorization for Random Independent Sets on Arbitrary Trees	Charilaos Efthymiou, Thomas P. Hayes, Daniel Stefankovic, Eric Vigoda		
9:20-9:35	Perfect Sampling for Hard Spheres from Strong Spatial Mixing	Konrad Anand, Andreas Göbel, Marcus Pappik, Will Perkins		
9:40-9:55	Fine Grained Analysis of High Dimensional Random Walks	Roy Gotlib, Tali Kaufman		
10:00-10:15	Rapid mixing of global Markov chains via spectral independence: the unbounded degree case	Antonio Blanca, Xusheng Zhang		
10:20-10:35	Sampling from the Random Cluster model on random regular graphs at all temperatures via Glauber dynamics	Andreas Galanis, Leslie Ann Goldberg, Paulina Smolarova		
Break				
Session 1B: Monday, 11:00 AM				
11:00-11:15	On the Power of Regular and Permutation Branching Programs	Chin Ho Lee, Edward Pyne, Salil Vadhan	A Constant-Factor Approximation for Quasi-bipartite Directed Steiner Tree on Minor-Free Graphs	Zachary Friggstad and Ramin Mousavi
11:20-11:35	Range Avoidance for Constant-Depth Circuits: Hardness and Algorithms	Karthik Gajulapalli, Alexander Golovnev, Satyajeet Nagargoje, Sidhant Saraogi	Algorithms for 2-connected network design and flexible Steiner trees with a constant number of terminals	Ishan Bansal, Joe Cheriyan, Logan Grout and Sharat Ibrahimpur
11:40-11:55	Sampling and Certifying Symmetric Functions	Yuval Filmus, Itai Leigh, Artur Riazanov, Dmitry Sokolov	Tighter Approximation for the Uniform Cost-Distance Steiner Tree Problem	Josefine Foos, Stephan Held and Yannik Spitzley
12:00-12:15	An embarrassingly parallel optimal-space cardinality estimation algorithm	Emin Karayel	Approximation Algorithms for Directed Weighted Spanners	Elena Grigorescu, Nithish Kumar and Young-San Lin
Lunch (on your own)				
Joint Session 1C: Monday, 2:00 PM				
14:00-15:00	Invited talk: A survey of locally decodable codes			Shubhangi Saraf (U. Toronto)
Break				
Session 1D: Monday, 3:50 PM				
15:50-16:05	Hardness of the (Approximate) Shortest Vector Problem: A Simple Proof via Reed-Solomon Codes	Huck Bennett, Chris Peikert	Round and Bipartize for Vertex Cover Approximation	Danish Kashaev and Guido Schaefer
16:20-16:25	Interactive Error Correcting Codes: New Constructions and Impossibility Bounds	Meghal Gupta, Rachel Yun Zhang	Efficient Algorithms and Hardness Results for the Weighted k-server Problem	Anupam Gupta, Amit Kumar and Debmalya Panigrahi
16:30-16:45	A Deterministic Construction of a Large Distance Code from the Wozencraft Ensemble	Venkatesan Guruswami, Shilun Li	The (im)possibility of simple search-to-decision reductions for approximation problems	Alexander Golovnev, Siyao Guo, Spencer Peters and Noah Stephens-Davidowitz
16:50-17:10	Fast Decoding of Explicit almost Optimal ϵ -balanced q -ary Codes and Fast Approximation of Expanding k -CSPs	Fernando Granha Jeronimo	Experimental Design for Any p-Norm	Lap Chi Lau, Robert Wang and Hong Zhou

Tuesday, September 12

8:30-9:00	Coffee			
Session 2A: Tuesday, 9:00 AM				
9:00-9:15	Efficient Interactive Proofs for Non-Deterministic Bounded Space	Joshua Cook, Ron Rothblum	Oblivious algorithms for the Max-kAND problem	Noah Singer
9:20-9:35	Synergy between Circuit Obfuscation and Circuit Minimization	Russell Impagliazzo, Valentine Kabanets, Ilya Volkovich	Approximating Red-Blue Set Cover and Minimum Monotone Satisfying Assignment	Eden Chlamtac, Yury Makarychev and Ali Vakilian
9:40-9:55	Superpolynomial Lower Bounds for Learning Monotone Classes	Nader Bshouty	Approximating submodular k-partition via principle partition sequence	Karthekeyan Chandrasekaran and Weihang Wang
10:00-10:15	Tighter MA/1 Circuit Lower Bounds From Verifier Efficient PCPs for PSPACE	Joshua Cook, Dana Moshkovitz	Independent Sets in Elimination Graphs with a Submodular Objective	Chandra Chekuri and Kent Quanrud
10:20-10:35	Robustness for Space-Bounded Statistical Zero Knowledge	Eric Allender, Jacob Gray, Saachi Mutreja, Harsha Tirumala, Pengxiang Wang	Stable Approximation Algorithms for Dominating Set and Independent Set	Mark de Berg, Arpan Sadhukhan and Frits Spieksma
Break				
Session 2B: Tuesday, 11:00 AM				
11:00-11:15	On Optimization and Counting of Non-Broken Bases of Matroids	Dorna Abdolazimi, Kasper Lindberg, Shayan Oveis Gharan	Submodular Norms with Applications to Online Facility Location and Stochastic Probing	Kalen R Patton, Matteo Russo and Sahil Singla
11:20-11:35	NP-hardness of Almost Coloring Almost 3-Colorable Graphs	Yahli Hecht, Dor Minzer, Muli Safra		
11:40-11:55	Private Data Stream Analysis for Universal Symmetric Norm Estimation	Vladimir Braverman, Joel Manning, Zhiwei Steven Wu, Samson Zhou		
12:00-12:15	Extracting Mergers and Projections of Partitions	Swastik Kopparty, Vishvajeet N		
Lunch				
Joint Session 2C: Tuesday, 2:00 PM				
14:00-14:15	Improved Local Computation Algorithms for Constructing Spanners		Approximating Pandora's Box with Correlations	Shuchi Chawla, Evangelia Gergatsouli, Jeremy McMahan and Christos Tzamos
14:20-14:35			Submodular Norms with Applications to Online Facility Location and Stochastic Probing	Kalen R Patton, Matteo Russo and Sahil Singla
14:40-14:55				
15:00-15:15	On Constructing Spanners from Random Gaussian Projections	Sepehr Assadi, Michael Kapralov, Huacheng Yu		
Break				
Session 2D: Tuesday, 3:50 PM				
15:50-16:05	Giant Components in Random Temporal Graphs	Ruben Becker, Arnaud Casteigts, Pierluigi Crescenzi, Bojana Kodric, Michael Raskin, Malte Renken, Viktor Zamaraev	On Complexity of 1-Center in Various Metrics	Amir Abboud, Mohammadhossein Bateni, Vincent Cohen-Addad, Karthik C. S. and Saeed Seddighin
16:20-16:25	On Connectivity in Random Graph Models with Limited Dependencies	Johannes Lengler, Anders Martinsson, Kalina Petrova, Patrick Schneider, Raphael Steiner, Simon Weber, Emo Welzl	Bicriteria Approximation Algorithms for Priority Matroid Median	Tanvi Bajpai and Chandra Chekuri
16:30-16:45	The full rank condition for sparse random matrices	Amin Coja-Oghlan, Jane Gao, Max Hahn-Klimroth, Joon Lee, Noela Muller, Maurice Rolvien	Facility Location in the Sublinear Geometric Model	Morteza Monemizadeh
16:50-17:10	Evaluating Stability in Massive Social Networks: Efficient Streaming Algorithms for Structural Balance	Vikrant Ashvinkumar, Sepehr Assadi, Chengyuan Deng, Jie Gao, Chen Wang		
Tuesday Evening Outing: Atlanta Beltline				

Wednesday, September 13

8:30-9:00	Coffee			
Session 3A: Wednesday, 9:00 AM				
9:00-9:15	Low-Degree Testing Over Grids	Prashanth Amireddy, Srikanth Srinivasan, Madhu Sudan	On Minimizing Generalized Makespan on Unrelated Machines	Nikhil Ayyadevara, Nikhil Bansal and Milind Prabhu
9:20-9:35	Testing versus estimation of graph properties, revisited	Lior Gishboliner, Nick Kushnir, Asaf Shapira	Approximation algorithms for maximum weighted throughput on unrelated machines	George Karakostas and Stavros Kolliopoulos
9:40-9:55	Directed Poincaré Inequalities and L^1 Monotonicity Testing of Lipschitz Functions	Renato Ferreira Pinto Jr.	An AFPTAS for Bin Packing with Partition Matroid via a New Method for LP Rounding	Ilan Doron-Arad, Ariel Kulik and Hadas Shachnai
10:00-10:15	Bias Reduction for Sum Estimation	Talya Eden, Jakob Houen, Shyam Narayanan, Will Rosenbaum, Jakub Tětek	A 10/7-approximation for discrete bamboo garden trimming and continuous trimming on star graphs	Felix Höhne and Rob van Stee
10:20-10:35	Testing Connectedness of Images	Piotr Berman, Meiram Murzabulatov, Sofya Raskhodnikova, Dragos Ristache	Online Matching with Set and Concave Delays	Lindsey Deryckere and Seun William Umboh
Break				
Joint Session 3B: Wednesday, 11:00 AM				
11:00-12:00	Invited talk: Welfare and Fairness in Combinatorial Allocation Problems			Jan Vondrak (Stanford University)
Lunch				
Joint Session 3C: Wednesday, 2:00 PM				
14:00-14:15	Subset Sum in time $2^{\{n/2\}} / \text{poly}(n)$	Xi Chen, Yaonan Jin, Tim Randolph, Rocco A. Servedio	Approximation Algorithms and Lower Bounds for Graph Burning Probabilistic Metric Embedding via Metric Labeling	Matej Lieskovský, Jiří Sgall and Andreas Emil Feldmann Kamesh Munagala, Govind S. Sankar and Erin Taylor
14:20-14:35	How to Make Your Approximation Algorithm Private: A Black-Box Differentially-Private Transformation for Tunable Approximation Algorithms of Functions with Low Sensitivity	Jeremiah Blocki, Elena Grigorescu, Tamalika Mukherjee, Samson Zhou		
14:40-14:55				
15:00-15:15				
Break				
Session 3D: Wednesday, 3:50 PM				
15:50-16:05	On the Composition of Randomized Query Complexity and Approximate Degree	Sourav Chakraborty, Chandrima Kayal, Rajat Mittal, Manaswi Paraashar, Swagato Sanyal, Nitin Saurabh	An Approximation Algorithm for the Exact Matching Problem in Bipartite Graphs	Anita Dürer, Nicolas El Maalouly and Lasse Wulf
16:20-16:25	Classical simulation of one-query quantum distinguishers	Andrej Bogdanov, Tsun Ming Cheung, Krishnamoorthy Dinesh, John C. S. Lui	Improved Diversity Maximization Algorithms for Matching and Pseudoforest	Sepideh Mahabadi and Shyam Narayanan
16:30-16:45	On the Complexity of Triangle Counting using Emptiness Queries	Arijit Bishnu, Arijit Ghosh, Gopinath Mishra	Scalable Auction Algorithms for Bipartite Maximum Matching Problems	Quanzhan C. Liu, Yiduo Ke and Samir Khuller
End of conference. See you at RANDOM/APPROX 2024!				