

SODA'25 Day 3 (Tuesday)

All day (8:30 AM - 5:00 PM)	Registration	Grand Gallery - 2nd Floor
All day (9:00 AM - 5:00 PM)	Exhibitor Hours	Grand Gallery - 2nd Floor
8:30 AM - 9:00 AM	Continental Breakfast	Grand Gallery - 2nd Floor

Time	SODA 7A <i>Grand Ballroom C/D - 2nd Floor</i> Chair: William Umboh (Univ. of Melbourne)	SODA 7B <i>Toulouse - 2nd Floor Mezzanine</i> Chair: Nikhil Bansal (UMich)	SODA 7C <i>Grand Ballroom A - 2nd Floor</i> Chair: Artur Czumaj (Univ. of Warwick)	SOSA 3 <i>St. Charles - 1st Floor</i> Chair: Robert Tarjan (Princeton Univ.)
9:00-9:20	Improved Bounds for Fully Dynamic Matching Via Ordered Ruzsa-Szemerédi Graphs <i>Sepehr Assadi</i> (Univ. of Waterloo); Sanjeev Khanna (UPenn); Peter Kiss (Univ. of Vienna)	Bounding ε-Scatter Dimension Via Metric Sparsity Romain Bourneuf (Inria-LIP-ENS Lyon); <i>Marcin Pilipczuk</i> (Univ. of Warsaw)	An Analogue of Reed's Conjecture for Digraphs Ken-ichi Kawarabayashi and <i>Lucas Picasarri-Arrieta</i> (National Institute of Informatics)	Multi-Dimensional Approximate Counting <i>Dingyu Wang</i> (UMich)
9:25-9:45	Matching Composition and Efficient Weight Reduction in Dynamic Matching Aaron Bernstein (Rutgers Univ.); <i>Jiale Chen</i> (Stanford Univ.); Aditi Dudeja (Univ. of Salzburg); Zachary Langley (Rutgers Univ.); Aaron Sidford and Ta-Wei Tu (Stanford Univ.)	The Johnson-Lindenstrauss Lemma for Clustering and Subspace Approximation: From Coresets to Dimension Reduction <i>Erik Waingarten</i> (UPenn); Moses Charikar (Stanford Univ.)	Weak Coloring Numbers of Minor-Closed Graph Classes <i>Jedrzej Hodor</i> (Jagiellonian Univ.); Hoang La (CNRS, Université Paris-Saclay); Piotr Micek (Jagiellonian Univ.); Clément Rambaud (CEPAM - CNRS)	3sum in Preprocessed Universes: Faster and Simpler <i>Adam Polak</i> (Bocconi Univ.); Shashwat Kasliwal and Pratyush Sharma (IIT Delhi)
9:50-10:10	New Philosopher Inequalities for Online Bayesian Matching, Via Pivotal Sampling Mark Braverman (Princeton Univ.); Mahsa Derakhshan (Northeastern Univ.); <i>Tristan Pollner</i> and Amin Saberi (Stanford Univ.); David Wajc (Technion Israel Institute of Technology)	Embedding Probability Distributions into Low Dimensional ℓ_1: Tree Ising Models Via Truncated Metrics Moses Charikar, Spencer Compton, and <i>Chirag Pabbaraju</i> (Stanford Univ.)	Unique-Nighbor Expanders with Better Expansion for Polynomial-Sized Sets <i>Yeyuan Chen</i> (UMich)	Optimal Prefix-Suffix Queries with Applications <i>Solon P. Pissis</i> (CWI, Amsterdam)
10:15-10:35	Entropy Regularization and Faster Decremental Matching in General Graphs Jiale Chen, Aaron Sidford, and <i>Ta-Wei Tu</i> (Stanford Univ.)	Highway Dimension: a Metric View <i>Andreas E. Feldmann</i> (Univ. of Sheffield); Arnold Filtser (Bar-Ilan Univ.)	A Coarse Erdős-Pósa Theorem <i>Jungho Ahn</i> (Korea Institute for Advanced Study); Jochen Pascal Gollin (Univ. of Primorska); Tony Huynh (Université Libre de Bruxelles); O-Joung Kwon (Hanyang Univ.)	Pure Binary Finger Search Trees Gerth S. Brodal and <i>Casper Rysgaard</i> (Aarhus Univ.)
10:40-11:00	Online Dependent Rounding Schemes for Bipartite Matchings, with Applications <i>Joseph (Seffi) Naor</i> (Technion Israel Institute of Technology); Aravind Srinivasan (Univ. of Maryland, College Park); David Wajc (Technion Israel Institute of Technology)	Outlier-robust Mean Estimation near the Breakdown Point via Sum-of-Squares Hongjie Chen, <i>Deepak Narayanan Sridharan</i> , and David Steurer (ETH Zurich)	Planar Graphs in Blowups of Fans <i>Pat Morin</i> (Carleton Univ.)	A Simple Algorithm for Dynamic Carpooling with Recourse Yuval Efron, Shyamal Patel, and <i>Cliff Stein</i> (Columbia Univ.)

11:05 AM - 11:30 AM	Coffee Break	Grand Gallery - 2nd Floor
11:30 AM - 12:30 PM	IP2: When and Why do Efficient Algorithms Exist (for Constraint Satisfaction and Beyond)? Venkatesan Guruswami (UC Berkeley)	Grand Ballroom C/D - 2nd Floor
12:30 PM - 2:00 PM	Lunch Break	Attendees on their own

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2:00-2:20	Streaming Algorithms Via Local Algorithms for Maximum Directed Cut Santhoshini Velusamy (Toyota Technological Institute at Chicago); Raghuvansh Saxena (Microsoft Research); <i>Noah Singer</i> (CMU); Madhu Sudan (Harvard Univ.)	A Fast Algorithm for Computing Zigzag Representatives Tamal K. Dey (Purdue Univ.); <i>Tao Hou</i> (Univ. of Oregon); Dmitriy Morozov (Lawrence Berkeley National Laboratory)	Hardness of Counting Small Induced Subgraphs: Fourier vs. Sylow Philip Wellnitz and <i>Simon Döring</i> (Max Planck Institute for Informatics); Dániel Marx (CISPA Helmholtz Center for Information Security); Radu Curticapean (Univ. of Regensburg and IT Univ. of Copenhagen); Daniel Neuen (Max Planck Institute for Informatics)	Bidirectional Dijkstra's Algorithm Is Instance-Optimal Bernhard Haeupler (INSAIT, Sofia Univ.); Richard Hladík (Sofia Univ.); Václav Rozhon (ETH Zurich); Robert Tarjan (Princeton Univ.); <i>Jakub Tetek</i> (INSAIT, Sofia Univ.)
2:25-2:45	Universal Perfect Samplers for Incremental Streams <i>Dingyu Wang</i> (UMich); Seth Pettie (UMich)	Minimum Convex Hull and Maximum Overlap of Two Convex Polytopes <i>Mook Kwon Jung</i> , Seokyun Kang, and Hee-Kap Ahn (POSTECH)	Maximum Span Hypothesis: A Potentially Weaker Assumption Than Gap-ETH for Parameterized Complexity <i>Karthik C. S.</i> (Rutgers Univ.); Subhash Khot (NYU)	A Simple Parallel Algorithm with Near-Linear Work for Negative-Weight Single-Source Shortest Path Nick Fischer (INSAIT, Sofia Univ.); Bernhard Haeupler (ETH Zurich); Rustam Latypov (Aalto Univ.); Antti Roeyskoe and <i>Aurelio L. Sulser</i> (ETH Zurich)
2:50-3:10	Streaming and Communication Complexity of Load-Balancing Via Matching Contractors Sepehr Assadi (Univ. of Waterloo); Aaron Bernstein (Rutgers Univ.); Zach Langley (Rutgers Univ.); Lap Chi Lau and <i>Robert Wang</i> (Univ. of Waterloo)	Partitioning a Polygon Into Small Pieces Mikkel Abrahamsen, Nichlas Rasmussen, and <i>Mads Jensen</i> (Univ. of Copenhagen)	Parameterizing the quantification of CMSO: model checking on minor-closed graph classes Ignasi Sau (CNRS, LIRMM); <i>Giannos Stamoulis</i> (Univ. of Warsaw); Dimitrios Thilikos (CNRS, LIRMM)	Efficient Matroid Intersection Via a Batch-Update Auction Algorithm Joakim Blikstad (KTH Royal Institute of Technology); <i>Ta-Wei Tu</i> (Stanford Univ.)
3:15-3:35	Understanding Memory-Regret Trade-Off for Streaming Stochastic Multi-Armed Bandits <i>Yuchen He</i> , Zichun Ye, and Chihao Zhang (Shanghai Jiao Tong Univ.)	Computing the Second and Third Systoles of a Combinatorial Surface <i>Matthijs Ebbens</i> (Univ. of Cologne); Francis Lazarus (Université Grenoble)	Losing Treewidth In The Presence Of Weights <i>Michał Włodarczyk</i> (Univ. of Warsaw)	Trading Prophets: How to Trade Multiple Stocks Optimally <i>Surbhi Rajput</i> , Ashish Chiplunkar, and Rohit Vaish (IIT Delhi)

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3:40-4:00	Near-Optimal Relative Error Streaming Quantile Estimation Via Elastic Compactors <i>Hongxun Wu</i> (UC Berkeley); Elena Gribelyuk, Pachara Sawettamalya, and Huacheng Yu (Princeton Univ.)	An Efficient Regularity Lemma for Semi-Algebraic Hypergraphs <i>Natan Rubin</i> (Ben-Gurion Univ.)	Finding irrelevant vertices in linear time on bounded-genus graphs Petr Golovach (Univ. of Bergen); Stavros Kolliopoulos (National and Kapodistrian Univ. of Athens); <i>Giannos Stamoulis</i> (Univ. of Warsaw); Dimitrios Thilikos (CNRS, LIRMM)	A Simple Lower Bound for Set Agreement in Dynamic Networks Pierre Fraigniaud (Université Paris Sud & CNRS); <i>Minh Hang Nguyen</i> (Université Paris Cité); Ami Paz (CNRS LISN, Université Paris-Saclay)

4:05 PM - 4:30 PM	Coffee Break	Grand Gallery - 2nd Floor
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4:30-4:50	Competitive Strategies to Use "Warm Start" Algorithms with Predictions Avrim Blum (Toyota Technological Institute at Chicago); <i>Vaidehi Srinivas</i> (Northwestern Univ.)	Efficient d-Ary Cuckoo Hashing at High Load Factors by Bubbling Up <i>William Kuszmaul</i> (CMU); Michael Mitzenmacher (Harvard Univ.)	Parks and Recreation: Color Fault-Tolerant Spanners Made Local <i>Asaf Petruschka</i> , Merav Parter, Shay Sapir, and Elad Tzalik (Weizmann Institute of Science)	Simple Combinatorial Construction of the $k^{o(1)}$-Lower Bound for Approximating the Parameterized k-Clique Yijia Chen (Shanghai Jiao Tong Univ.); Yi Feng (Shanghai Univ. of Finance and Economics); <i>Bundit Laekhanukit</i> (Independent Researcher); Yanlin Liu (Ocean Univ. of China)
4:55-5:15	Online Scheduling Via Gradient Descent for Weighted Flow Time Minimization <i>Qingyun Chen</i> , Sungjin Im, and Aditya Petety (UC Merced)	Fast and Simple Sorting Using Partial Information <i>Richard Hladík</i> (Sofia Univ.); Bernhard Haeupler (ETH Zurich); John Iacono (Université libre de Bruxelles); Václav Rozhon (ETH Zurich); Robert Tarjan (Princeton Univ.); Jakub Tetek (INSAIT, Sofia Univ.)	Asynchronous 3-Majority Dynamics with Many Opinions <i>Nobutaka Shimizu</i> (Institute of Science Tokyo); Colin Cooper, Frederik Mallmann-Trenn, and Tomasz Radzik (King's College London); Takeharu Shiraga (Chuo Univ.)	Validating a PTAS for Triangle-Free 2-Matching Yusuke Kobayashi and <i>Takashi Noguchi</i> (Kyoto Univ.)
5:20-5:40	Stronger Adversaries Grow Cheaper Forests: Online Node-Weighted Steiner Problems <i>Sander Borst</i> (Centrum Wiskunde & Informatica); Marek Elias and Moritz Venzin (Bocconi Univ.)	Tight Bounds and Phase Transitions for Incremental and Dynamic Retrieval <i>Aaron L. Putterman</i> (Harvard Univ.); William Kuszmaul (CMU); Tingqiang Xu and Hangrui Zhou (Tsinghua Univ.); Renfei Zhou (CMU)	Sublinear-Round Broadcast Without Trusted Setup Andreea Alexandru (Duality Technologies); Julian Loss (CISPA Helmholtz Center for Information Security); Charalampos Papamanthou (Yale Univ.); <i>Giorgos Tsimos</i> (Univ. of Maryland); Benedikt Wagner (Ethereum Foundation)	Simple Approximation Algorithms for Polyamorous Scheduling <i>Yuriy Biktairov</i> (Univ. of Southern California); Leszek Gasieniec (Univ. of Liverpool); Wanchote Po Jiamjitrak (Univ. of Helsinki); N Namrata and Benjamin Smith (Univ. of Liverpool); Sebastian Wild (Univ. of Marburg)

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5:45-6:05	Putting Off the Catching Up: Online Joint Replenishment Problem with Holding and Backlog Costs Benjamin Moseley, <i>Aidin Niaparast</i> , and R. Ravi (CMU)	A Cell Probe Lower Bound for the Predecessor Search Problem in PRAM Peyman Afshani (Aarhus Univ.); <i>Nodari Sitchinava</i> (Univ. of Hawaii at Manoa)	Fully-Distributed Byzantine Agreement in Sparse Networks John Augustine (IIT Mumbai); <i>Fabien Dufoulon</i> (Lancaster Univ.); Gopal Pandurangan (Univ. of Houston)	Spectral Sparsification by Deterministic Discrepancy Walk Lap Chi Lau and <i>Robert Wang</i> (Univ. of Waterloo); Hong Zhou (Fuzhou Univ.)
6:10-6:30	Unweighted Layered Graph Traversal: Passing a Crown Via Entropy Maximization <i>Romain Cosson</i> (Inria); Xingjian Bai (MIT); Christian Coester (Univ. of Oxford)	Top-K Document Retrieval in Compressed Space Gonzalo Navarro (Univ. of Chile); <i>Yakov Nekrich</i> (Michigan Technological Univ.)	On the Locality of Hall's Theorem Sebastian Brandt (CISPA Helmholtz Center for Information Security); Yannic Maus (Technische Univ. Graz); Ananth Narayanan (CISPA Helmholtz Center for Information Security); <i>Florian Schager</i> (TU Graz); Jara Uitto (Aalto Univ.)	Simple Length-Constrained Minimum Spanning Trees Ellis Hershkowitz and <i>Richard Huang</i> (Brown Univ.)
6:35-6:55	The Power of Proportional Fairness for Non-Clairvoyant Scheduling under Polyhedral Constraints Sven Jäger (RPTU Kaiserslautern-Landau); <i>Alexander Lindermayr</i> and Nicole Megow (Universität Bremen)	Faster Two-Dimensional Pattern Matching with k Mismatches <i>Jonas Ellert</i> (ENS Paris Saclay); Pawel Gawrychowski and Adam Gorkiewicz (Univ. of Wrocław); Tatiana Starikovskaya (École Normale Supérieure Paris)	Partial Synchrony for Free: New Upper Bounds for Byzantine Agreement Pierre Civit (EPFL); Ayaz Dzulfikar and Seth Gilbert (National Univ. of Singapore); Rachid Guerraoui, <i>Jovan Komatovic</i> , and Manuel Vidigueira (EPFL); Igor Zablotchi (Mysten Labs)	

7:00 PM - 8:00 PM	Jane Street Estimathon	Astor Ballroom I/II - 2nd Floor
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