SODA'25 Day 2 (Monday)

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 4A** *Grand Ballroom C/D - 2nd Floor* Chair: Emily Fox (Univ. of Texas at Dallas)	**SODA 4B** *Toulouse - 2nd Floor Mezzanine* Chair: Kangning Wang (Stanford Univ.)	**SODA 4C** *Grand Ballroom A - 2nd Floor* Chair: Bundit Laekhanukit (Independent Researcher)	**ALENEX4** *St. Charles - 1st Floor* Chair: Christian Schulz (Heidelberg Univ.)
9:00-9:20	**Deterministic Online Bipartite Edge Coloring** Joakim Blikstad (KTH Royal Institute of Technology); Ola Svensson (École Polytechnique Fédérale de Lausanne); *Radu Vintan* (EPFL); David Wajc (Technion Israel Institute of Technology)	**A Multi-Dimensional Online Contention Resolution Scheme for Revenue Maximization** *Trung Dang* and Shuchi Chawla (Univ. of Texas at Austin); Dimitrios Christou (Univ. of Texas at Austin); Zhiyi Huang (Univ. of Texas at Austin); Gregory Kehne and Rojin Rezvan (Univ. of Texas at Austin)	**Linear Equations with Monomial Constraints and Decision Problems in Abelian-by-Cyclic Groups** *Ruiwen Dong* (Saarland Univ.)	**Constructions, Bounds, and Algorithms for Peaceable Queens** Katie Clinch (Univ. of New South Wales); *Matthew Drescher* (UC Davis); Tony Huynh (Université Libre de Bruxelles); Abdallah Saffidine (Univ. of New South Wales)
9:25-9:45	**Eulerian Graph Sparsification by Effective Resistance Decomposition** Arun Jambulapati (Univ. of Washington); Sushant Sachdeva (Univ. of Toronto); Aaron Sidford (Stanford Univ.); Kevin Tian (Microsoft Research); *Yibin Zhao* (Univ. of Toronto)	**Hiring for An Uncertain Task: Joint Design of Information and Contracts** Matteo Castiglioni (Politecnico di Milano); *Junjie Chen* (City Univ. of Hong Kong)	**An Efficient Uniqueness Theorem for Overcomplete Tensor Decomposition** *Pascal Koiran* (LIP-ENS Lyon)	**Engineering Optimal Parallel Task Scheduling** Matthew Akram, Nikolai Maas, Peter Sanders, Dominik Schreiber, and *Wendy Yi* (Karlsruhe Institute of Technology)
9:50-10:10	**A Cut-Matching Game for Constant-Hop Expanders** *Bernhard Haeupler* (INSAIT, Sofia Univ. "St. Kliment Ohridski"); Jonas Huebotter (ETH Zurich); Mohsen Ghaffari (MIT)	**A Reduction from Multi-Parameter to Single-Parameter Bayesian Contract Design** Matteo Castiglioni (Politecnico di Milano); *Junjie Chen* (City Univ. of Hong Kong); Minming Li (City Univ. of Hong Kong); Haifeng Xu (Univ. of Chicago); Song Zuo (Google Research)	**Improving the Leading Constant of Matrix Multiplication** *Hantao Yu* (Columbia Univ.); Josh Alman (Columbia Univ.)	**Another L Makes It Better? Lagrange Meets LLL and May Improve BKZ Pre-Processing** *Sebastien Balny* (Université de Picardie Jules Verne); Claire Delaplace and Gilles Dequen (Université de Picardie Jules Verne)
10:15-10:35	**Quasilinear-Time Eccentricities Computation, and More, on Median Graphs** Pierre Bergé (Université Clermont Auvergne); *Ducoffe Guillaume* (Univ. of Bucharest); Habib Michel (Université Paris Cité)	**Majorized Bayesian Persuasion and Fair Selection** Siddhartha Banerjee (Cornell Univ.); Kamesh Munagala and *Yiheng Shen* (Duke Univ.); Kangning Wang (Rutgers Univ.)	**Faster Linear Systems and Matrix Norm Approximation Via Multi-Level Sketched Preconditioning** Michal Derezinski (UMich); Christopher Musco (NYU); *Jiaming Yang* (UMich)	**HyperSteiner: Computing Heuristic Hyperbolic Steiner Minimal Trees** *Aniss A. Medbouhi* (KTH Royal Institute of Technology); Alejandro García-Castellanos (VU Univ. Amsterdam); Giovanni Luca Marchetti and Danica Kragic (KTH Royal Institute of Technology); Erik Johannes Bekkers (Univ. of Amsterdam)

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10:40-11:00	**Parallel and Distributed Expander Decomposition: Simple, Fast, and Near-Optimal** *Daoyuan Chen* and Simon Meierhans (ETH Zurich); Maximilian Probst Gutenberg; Thatchaphol Saranurak (UMich)	**Multi-Agent Combinatorial Contracts** *Paul Duetting* (Google Research); Tomer Ezra (Harvard Univ.); Michal Feldman (Tel Aviv Univ.); Thomas Kesselheim (Univ. of Bonn)	**More Asymmetry Yields Faster Matrix Multiplication** Josh Alman (Columbia Univ.); Ran Duan (Tsinghua Univ.); Virginia Vassilevska Williams, Yinzhan Xu, and Zixuan Xu (MIT); *Renfei Zhou* (CMU)	**A Greedy Algorithm for Low-Crossing Partitions for General Set Systems** Monika Csikos and *Alexandre Louvet*; Nabil Mustafa (Université Sorbonne Paris Nord)

11:05 AM - 11:30 AM	Coffee Break	Grand Gallery - 2nd Floor
11:30 AM - 12:45 PM	**CP17 SODA Best Paper and Best Student Paper Prize Session**	Grand Ballroom C/D - 2nd Floor
12:45 PM - 2:00 PM	Lunch Break	Attendees on their own

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2:00-2:20	**A Polylogarithmic Approximation for Directed Steiner Forest in Planar Digraphs** Chandra Chekuri and *Rhea Jain* (UIUC)	**Testing Approximate Stationarity Concepts for Piecewise Affine Functions** *Lai Tian* (The Chinese Univ. of Hong Kong); Anthony So (Chinese Univ. of Hong Kong)	**Flipping Non-Crossing Spanning Trees** *Birgit Vogtenhuber* (Graz Univ. of Technology); Håvard Bjerkevik (Univ. at Albany); Linda Kleist (Univ. of Potsdam); Torsten Ueckerdt (Karlsruhe Institute of Technology)	**Simple Sublinear Algorithms for (Delta + 1) Vertex Coloring Via Asymmetric Palette Sparsification** *Sepehr Assadi* and Helia Yazdanyar (Univ. of Waterloo)
2:25-2:45	**Congestion-Approximators from the Bottom Up** *Jason M. Li* (CMU)	**Forall-Exist Statements in Pseudopolynomial Time** *Eleonore Bach* (EPFL); Friedrich Eisenbrand (École Polytechnique Fédérale de Lausanne); Thomas Rothvoss (Univ. of Washington); Robert Weismantel (ETH Zurich)	**Ptases for Euclidean Tsp with Unit Disk and Unit Square Neighborhoods** *William Lochet* (CNRS); Sayan Bandyapadhyay (Portland State Univ.); katie clinch (Univ. of New South Wales); Daniel Lokshtanov (UC Santa Barbara); Saket Saurabh (Institute of Mathematical Sciences and Univ. of Bergen); Jie Xue (NYU-Shanghai)	**How to Design a Quantum Streaming Algorithm Without Knowing Anything About Quantum Computing** John M. Kallaugher and Ojas Parekh (Sandia National Laboratories); *Nadezhda Voronova* (Boston Univ.)
2:50-3:10	**(Almost) Ruling Out Seth Lower Bounds for All-Pairs Max-Flow** *Ohad Trabelsi* (Toyota Technological Institute at Chicago)	**Complexity of Polytope Diameters Via Perfect Matchings** *Christian Nöbel* and Raphael Steiner (ETH Zurich)	**Fast Static and Dynamic Approximation Algorithms for Geometric Optimization Problems: Piercing, Independent Set, Vertex Cover, and Matching** *Sujoy Bhore* (IIT Bombay); Timothy M. Chan (UIUC)	**Sublinear-Time Algorithm for MST-Weight Revisited** *Gryphon Patlin* and Jan van den Brand (Georgia Institute of Technology)

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3:15-3:35	**Certificates in P and Subquadratic-Time Computation of Radius, Diameter, and All Eccentricities in Graphs** Feodor F. Dragan (Kent State Univ.); Guillaume Ducoffe (ICI – National Institute for Research and Development informatics); Michel Habib (Université Paris); *Laurent Viennot* (Inria)	**The Change-of-Measure Method, Block Lewis Weights, and Approximating Matrix Block Norms** *Naren S. Manoj* and Max Ovsiankin (Toyota Technological Institute at Chicago)	**Strict Self-Assembly of Discrete Self-Similar Fractals in the Abstract Tile Assembly Model** *Florent Becker* (Université d'Orleans); Daniel Hader and Matthew Patitz (Univ. of Arkansas)	**Testing Identity of Distributions under Kolmogorov Distance in Polylogarithmic Space** *Jakub Tetek* (INSAIT, Sofia Univ. "St. Kliment Ohridski"); Christian J. Lebeda (Inria)
3:40-4:00	**Flip Dynamics for Sampling Colorings: Improving $(11/6-\varepsilon)$ Using A Simple Metric** *Charlie A. Carlson* (UC Santa Barbara); Eric Vigoda (UC Santa Barbara)	**Integer Programs with Nearly Totally Unimodular Matrices: the Cographic Case** Manuel Aprile (Univ. of Padova); Samuel Fiorini and Gwenaël Joret (Université Libre de Bruxelles); *Stefan Kober* (Université libre de Bruxelles); Michal Seweryn (Charles Univ.); Stefan Weltge (Technische Univ. München); Yelena Yuditsky (McGill Univ.)	**Path and Intersections: Characterization of Quasi-metrics in Directed Okamura-Seymour Instances** Yu Chen (National Univ. of Singapore); *Zihan Tan* (Rutgers Univ.)	**On Optimal Testing of Linearity** *Vipul Arora* (National Univ. of Singapore); Esty Kelman (Boston Univ. and MIT); Uri Meir (Tel Aviv Univ.)

4:05 PM - 4:30 PM	Coffee Break	Grand Gallery - 2nd Floor

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4:30-4:50	**On the Uniqueness of Bayesian Coarse Correlated Equilibria in Standard First-Price and All-Pay Auctions** *Mete Seref Ahunbay* and Martin Bichler (Technical Univ. of Munich)	**Near-Optimal Hierarchical Matrix Approximation from Matrix-Vector Products** *Feyza Duman Keles* and Tyler Chen (NYU); Diana Halikias (Cornell Univ.); Cameron Musco (UMass); Christopher Musco (NYU); David Persson (École Polytechnique Fédérale de Lausanne)	**Private Mean Estimation with Person-Level Differential Privacy** *Rose Silver* (CMU); Sushant Agarwal (Northeastern Univ.); Gautam Kamath (Univ. of Waterloo); Mahbod Majid (MIT); Argyris Mouzakis (Univ. of Waterloo); Jonathan Ullman (Northeastern Univ.)	**A Simple and Combinatorial Approach to Proving Chernoff Bounds and Their Generalizations** *William Kuszmaul* (MIT)
4:55-5:15	**Approximating Competitive Equilibrium by Nash Welfare** Jugal Garg (UIUC); *Yixin Tao* (Shanghai Univ. of Finance and Economics); László Végh (Bonn Univ.)	**Improved Spectral Density Estimation Via Explicit and Implicit Deflation** *Rajarshi Bhattacharjee* (UMass); Rajesh Jayaram (Google Research); Cameron Musco (UMass); Christopher Musco (NYU); Archan Ray (Memorial Sloan-Kettering Cancer Center)	**Local Lipschitz Filters for Bounded-Range Functions with Applications to Arbitrary Real-Valued Functions** Jane Lange (MIT); *Ephraim Linder* and Sofya Raskhodnikova (Boston Univ.); Arsen Vasilyan (Michigan State Univ.)	**Only Two Shuffles Perform Card-Based Zero-Knowledge Proof for Sudoku of Any Size** *Kodai Tanaka* (Tohoku Univ.); Shun Sasaki and Kazumasa Shinagawa (Ibaraki Univ.); Takaaki Mizuki (Tohoku Univ.)

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5:20-5:40	**Tolls for Dynamic Equilibrium Flows** *Julian Schwarz*, Tobias Harks, and Lukas Graf (Univ. of Passau)	**On the Decidability of Presburger Arithmetic Expanded with Powers** *Toghrul Karimov* (Max Planck Institute for Software Systems); Florian Luca (Stellenbosch Univ.); Joris Nieuwveld and Joël Ouaknine (Max Planck Institute for Software Systems); James Worrell (Univ. of Oxford)	**Almost Tight Bounds for Differentially Private Densest Subgraph** *Michael Dinitz* (Johns Hopkins Univ.); Satyen Kale (Apple); Silvio Lattanzi (Google Zurich); Sergei Vassilvitskii (Google Research)	**A Multilinear Johnson-Lindenstrauss Transform** *Antonis Matakos*, Petteri Kaski, and Heikki Mannila (Aalto Univ.)
5:45-6:05	**Platforms for Efficient and Incentive-Aware Collaboration** *Kunhe Yang* (UC Berkeley); Nika Haghtalab (Lawrence Berkeley National Laboratory and UC Berkeley); Mingda Qiao (Univ. of St. Gallen and UC Berkeley)	**Solving Polynomial Equations Over Finite Fields** *Holger Dell* (IT Univ. of Copenhagen); Anselm Haak (Univ. of Paderborn); Melvin Kallmayer (Goethe Univ. Frankfurt); Leo Wennmann (Maastricht Univ.)	**Improved Differentially Private Continual Observation Using Group Algebra** *Jalaj Upadhyay* (Rutgers Univ.); Monika Henzinger (Institute of Science and Technology Austria)	**Better Gaussian Mechanism Using Correlated Noise** *Christian J. Lebeda* (Inria)
6:10-6:30	**Clock Auctions Augmented with Unreliable Advice** Vasilis Gkatzelis, *Daniel Schoepflin*, and Xizhi Tan (Drexel Univ.)	**Fast Deterministic Chromatic Number under the Asymptotic Rank Conjecture** Andreas Björklund (IT Univ. of Copenhagen); *Kevin Pratt* (NYU); Petteri Kaski (Aalto Univ.); Thore Husfeldt (IT Univ. of Copenhagen); Radu Curticapean (Univ. of Regensburg and IT Univ. of Copenhagen)		**Ellipsoid Fitting Up to Constant Via Empirical Covariance Estimation** *June Wu* (Univ. of Chicago); Madhur Tulsiani (Toyota Technological Institute at Chicago)

6:45 PM - 7:45 PM	SODA Business Meeting & Awards Presentation, followed by SOSA Business Meeting (**Complimentary beer and wine will be served**)	Grand Ballroom C/D - 2nd Floor