| | | Tuesday, July 13th |
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| 14:00- 15:00 | Session 1A: Graph Algorithms | |
| 14:00- 14:10 | <u>239</u> | Deeksha Adil, Brian Bullins, Rasmus Kyng and Sushant Sachdeva. Almost-linear Time Weighted \ell_p-norm Solvers in Slightly Dense Graphs via Sparsification |
| 14:10- 14:20 | 230 | Chandra Chekuri and Kent Quanrud. Faster Algorithms for Rooted Connectivity in Directed Graphs |
| 14:20- 14:30 | <u>209</u> | Joakim Blikstad. Breaking O(nr) for Matroid Intersection |
| 14:30- 14:40 | <u>2</u> | Tianyi Zhang. Deterministic Maximum Flows in Simple Graphs |
| 14:40- 14:50 | <u>305</u> | Chandra Chekuri and Kent Quanrud. Isolating Cuts, (Bi-)Submodularity, and Faster Algorithms for Connectivity |
| 14:50- 15:00 | <u>238</u> | Seth Pettie and Longhui Yin. The Structure of Minimum Vertex Cuts |
| 14:00- 15:00 | Session 1B: Combinatorial Algorithms and Constructions | |
| 14:00- 14:10 | 108 | <u>Jakub Kozik</u> . Improving Gebauer's construction of 3-chromatic hypergraphs with few edges |
| 14:10- 14:20 | <u>58</u> | Sébastien Bouchard, Yoann Dieudonné, <u>Arnaud Labourel</u> and <u>Andrzej Pelc</u> . Almost-Optimal Deterministic Treasure Hunt in Arbitrary Graphs |
| 14:20- 14:30 | <u>352</u> | Christoph Damerius, Dominik Kaaser, <u>Peter Kling</u> and Florian Schneider. On Greedily Packing Anchored Rectangles |
| 14:30- 14:40 | <u>127</u> | Artur Czumaj, George Kontogeorgiou and Mike Paterson. Haystack Hunting Hints and Locker Room Communication |
| 14:40- 14:50 | <u>59</u> | Telikepalli Kavitha. Maximum Matchings and Popularity |
| 14:50- 15:00 | <u>151</u> | Bernd Gärtner, Sebastian Haslebacher and Hung P. Hoang. A subexponential algorithm for ARRIVAL |
| 14:00- 15:00 | Session 1C: Hardness and Testing | |
| 14:00- 14:10 | <u>301</u> | Mitali Bafna and Nikhil Vyas. Optimal Fine-grained Hardness of Approximation of Linear Equations |
| 14:10- 14:20 | <u>276</u> | <u>Joshua Brakensiek</u> , <u>Venkatesan Guruswami</u> and <u>Sai Sandeep</u> . Conditional Dichotomy of Boolean Ordered Promise CSPs |
| 14:20- 14:30 | <u>174</u> | Amir Abboud and Virginia Vassilevska Williams. Fine-Grained Hardness for Edit Distance to a Fixed Sequence |
| 14:30- 14:40 | 318 | Eleni Batziou, <u>Kristoffer Arnsfelt Hansen</u> and Kasper Høgh. Strong Approximate Consensus Halving and the Borsuk-Ulam Theorem |
| 14:40- 14:50 | <u>167</u> | Andrej Bogdanov and Gautam Prakriya. Direct Sum and Partitionability Testing over General Groups |
| 14:50- 15:00 | <u>50</u> | Izhar Oppenhein and Tali Kaufman. Coboundary and cosystolic expansion from strong symmetry |

| 15:30- | Session 2A: Graph Algorithms | |
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| 16:30 15:30- | | Édouard Bonnet. 4 vs 7 sparse undirected unweighted Diameter is SETH- |
| 15:30- | <u>28</u> | hard at time \$n^{4/3}\$ |
| 15:40- 15:50 | <u>126</u> | <u>Yuzhou Gu, Adam Polak, Virginia Vassilevska Williams</u> and <u>Yinzhan Xu</u> . Faster Monotone Min-Plus Product, Range Mode, and Single Source Replacement Paths |
| 15:50- 16:00 | <u>106</u> | Mina Dalirrooyfard and Jenny Kaufmann. Approximation Algorithms for Min- Distance Problems in DAGs |
| 16:00- 16:10 | <u>136</u> | <u>Timothy M. Chan, Virginia Vassilevska Williams</u> and <u>Yinzhan Xu</u> . Algorithms, Reductions and Equivalences for Small Weight Variants of All-Pairs Shortest Paths |
| 16:10- 16:20 | <u>29</u> | Yong Gu and $\frac{\text{Hanlin Ren}}{\text{Constructing a Distance Sensitivity Oracle in O(n^2.5794 M) Time}$ |
| 16:20- 16:30 | <u>98</u> | <u>Tuukka Korhonen</u> . Lower Bounds on Dynamic Programming for Maximum Weight Independent Set |
| 15:30- 16:30 | Session 2B: Quantum Algorithms | |
| 15:30- 15:40 | <u>41</u> | Joran van Apeldoorn, Sander Gribling, Yinan Li, Harold Nieuwboer, Michael Walter and Ronald de Wolf. Quantum algorithms for matrix scaling and matrix balancing |
| 15:40- 15:50 | <u>121</u> | Andrew Childs, Shih-Han Hung and Tongyang Li. Quantum query complexity with matrix-vector products |
| 15:50- 16:00 | 123 | Hyejung Hailey Jee, Carlo Sparaciari, Omar Fawzi and Mario Berta. Quasi- polynomial time algorithms for free quantum games in bounded dimension |
| 16:00- 16:10 | <u>285</u> | Ojas Parekh and Kevin Thompson. Application of the Level-2 Quantum Lasserre Hierarchy in Quantum Approximation Algorithms |
| 16:10- 16:20 | 227 | Uma Girish, Ran Raz and Wei Zhan. Quantum Logspace Algorithm for Powering Matrices with Bounded Norm |
| 16:20- 16:30 | <u>220</u> | J. A. Gregor Lagodzinski, Andreas Göbel, Katrin Casel and <u>Tobias Friedrich</u> . On Counting (Quantum-)Graph Homomorphisms in Finite Fields of Prime Order |
| 15:30- 16:30 | Session 2C: Algebraic Algorithms | |
| 15:30- 15:40 | <u>54</u> | Karl Bringmann and Vasileios Nakos. Fast n-fold Boolean Convolution via Additive Combinatorics |
| 15:40- 15:50 | <u>73</u> | Andreas Björklund and Petteri Kaski. Counting Short Vector Pairs by Inner Product and Relations to the Permanent |
| 15:50- 16:00 | <u>203</u> | Kevin Pratt and Cornelius Brand. Parameterized Applications of Symbolic Differentiation of (Totally) Multilinear Polynomials |
| 16:00- 16:10 | <u>186</u> | Adam Polak, Lars Rohwedder and Karol Węgrzycki. Knapsack and Subset Sum with Small Items |
| 16:10- 16:20 | <u>252</u> | Eike Neumann, <u>Joel Ouaknine</u> and <u>James Worrell</u> . Decision problems for second-order holonomic recurrences |
| 16:20- | <u>355</u> | Adam Kurpisz, Aaron Potechin and Elias Wirth. SoS certification for |

| 16:30 | | symmetric quadratic functions and its connection to constrained Boolean hypercube optimization | |
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| | Wednesday, July 14th | | |
| 12:30- 13:30 | Session 3A: Complexity and Circuits | | |
| 12:30- 12:40 | <u>112</u> | <u>Lijie Chen</u> , Zhenjian Lu, Xin Lyu and <u>Igor Oliveira</u> . Majority vs. Approximate Linear Sum and Average-Case Complexity Below NC1 | |
| 12:40- 12:50 | <u>87</u> | Emanuele Viola. Fourier conjectures, correlation bounds, and Majority | |
| 12:50- 13:00 | <u>281</u> | Marco Carmosino, Kenneth Hoover, Russell Impagliazzo, Valentine Kabanets and Antonina Kolokolova. Lifting for constant-depth circuits and applications to MCSP | |
| 13:00- 13:10 | <u>114</u> | Zhenjian Lu and <u>Igor Oliveira</u> . An Efficient Coding Theorem via Probabilistic Representations and its Applications | |
| 13:10- 13:20 | 200 | Michal Koucký and Karel Král. Sorting Short Integers | |
| 13:20- 13:30 | <u>315</u> | <u>Vahid Reza Asadi</u> and <u>Igor Shinkar</u> . Relaxed Locally Correctable Codes with Improved Parameters | |
| 12:30- 13:30 | Session 3B: Strings and Pattern Matching | | |
| 12:30- 12:40 | <u>47</u> | Shyan Akmal and <u>Virginia Williams</u> . Improved Approximation for Longest Common Subsequence over Small Alphabets | |
| 12:40- 12:50 | 92 | Ilan Newman and Nithin Varma. New Sublinear Algorithms and Lower Bounds for LIS Estimation | |
| 12:50- 13:00 | <u>104</u> | Karl Bringmann and Debarati Das. A Linear-Time $n^0.4$ -Approximation for Longest Common Subsequence | |
| 13:00- 13:10 | 313 | Takaaki Nishimoto and <u>Yasuo Tabei</u> . Optimal-Time Queries on BWT-runs Compressed Indexes | |
| 13:10- 13:20 | 218 | <u>Panagiotis Charalampopoulos</u> , <u>Shay Mozes</u> , <u>Pawel Gawrychowski</u> and <u>Oren Weimann</u> . An Almost Optimal Edit Distance Oracle | |
| 13:20- 13:30 | <u>74</u> | Massimo Cairo, Romeo Rizzi, Alexandru I. Tomescu and Elia Carlo Zirondelli. Genome assembly, from practice to theory: safe, complete and linear-time | |
| 12:30- 13:30 | Session 3C: Scheduling and Allocation | | |
| 12:30- 12:40 | <u>325</u> | Sharat Ibrahimpur and $\underline{\text{Chaitanya Swamy}}$. Minimum-Norm Load Balancing is (almost) as Easy as Minimizing Makespan | |
| 12:40- 12:50 | <u>255</u> | Marcin Bienkowski, Artur Kraska and Hsiang-Hsuan Liu. Traveling Repairperson, Unrelated Machines, and Other Stories About Average Completion Times | |
| 12:50- 13:00 | <u>36</u> | Moritz Buchem, <u>Lars Rohwedder</u> , Tjark Vredeveld and Andreas Wiese. Additive Approximation Schemes for Load Balancing Problems | |
| 13:00- 13:10 | <u>26</u> | Bernhard Haeupler, <u>David Hershkowitz</u> and <u>David Wajc</u> . Near-Optimal Schedules for Simultaneous Multicasts | |
| 13:10- 13:20 | <u>95</u> | Etienne Bamas, Paritosh Garg and <u>Lars Rohwedder</u> . The Submodular Santa Claus Problem in the Restricted Assignment Case | |

| 13:20- 13:30 | 183 | George Christodoulou, Elias Koutsoupias and Annamaria Kovacs. Truthful |
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| 14:00- | | allocation in graphs and hypergraphs |
| 15:00 | Session 4A: Online Algorithms | |
| 14:00- 14:10 | <u>63</u> | Enoch Peserico and Michele Scquizzato. Matching on the line admits no $o(\sqrt n)$ -competitive algorithm |
| 14:10- 14:20 | 338 | Hu Fu, Zhihao Gavin Tang, Hongxun Wu, Jinzhao Wu and Qianfan Zhang. Random Order Vertex Arrival Contention Resolution Schemes For Matching, With Applications |
| 14:20- 14:30 | 299 | Amin Saberi and David Wajc. The Greedy Algorithm is not Optimal for On- Line Edge Coloring |
| 14:30- 14:40 | <u>278</u> | Christian Coester and Elias Koutsoupias. Towards the k-server conjecture: A unifying potential, pushing the frontier to the circle |
| 14:40- 14:50 | <u>48</u> | Nick Gravin, Zhihao Gavin Tang and <u>Kangning Wang</u> . Online Stochastic Matching with Edge Arrivals |
| 14:50- 15:00 | <u>161</u> | Antonios Antoniadis, Matthias Englert, Nicolaos Matsakis and Pavel Veselý. Breaking the Barrier of 2 for the Competitiveness of Longest Queue Drop |
| 14:00- 15:00 | Session 4B: Clustering | |
| 14:00- 14:10 | 128 | Tanvi Bajpai, Deeparnab Chakrabarty, Chandra Chekuri and Maryam Negahbani. Revisiting Priority k-Center: Fairness and Outliers |
| 14:10- 14:20 | <u>134</u> | <u>Arun Ganesh</u> , <u>Bruce Maggs</u> and <u>Debmalya Panigrahi</u> . Universal Algorithms for Clustering Problems |
| 14:20- 14:30 | <u>157</u> | Sayan Bandyapadhyay, Fedor Fomin and Kirill Simonov. On Coresets for Fair Clustering in Metric and Euclidean Spaces and Their Applications |
| 14:30- 14:40 | 122 | Benjamin Moseley, Kirk Pruhs, Alireza Samadian and Yuyan Wang. Relational Algorithms for k-means Clustering |
| 14:40- 14:50 | <u>20</u> | Anupam Gupta, Benjamin Moseley and Rudy Zhou. Structural Iterative Rounding for Generalized k-Median Problems |
| 14:50- 15:00 | <u>282</u> | Ruoxu Cen, Yu Cheng, Debmalya Panigrahi and Kevin Sun. Sparsification of Directed Graphs via Cut Balance |
| 14:00- 15:00 | Session 4C: Exact Algorithms and Treewidth | |
| 14:00- 14:10 | <u>245</u> | Karl Bringmann and Jasper Slusallek. Current Algorithms for Detecting Subgraphs of Bounded Treewidth are Probably Optimal |
| 14:10- 14:20 | <u>248</u> | Dániel Marx, Govind S. Sankar and Philipp Schepper. Degrees and Gaps: Tight Complexity Results of General Factor Problems Parameterized by Treewidth and Cutwidth |
| 14:20- 14:30 | <u>13</u> | Michael Lampis. Minimum Stable Cut and Treewidth |
| 14:30- 14:40 | <u>43</u> | <u>Édouard Bonnet</u> , Colin Geniet, <u>Eun Jung Kim</u> , Stéphan Thomassé and Rémi Watrigant. Twin-width III: Max Independent Set, Min Dominating Set, and Coloring |
| 14:40- 14:50 | <u>115</u> | Or Zamir. Breaking the 2 ⁿ barrier for 5-coloring and 6-coloring |

| 14:50- 15:00 | <u>85</u> | Matthias Bentert, André Nichterlein, Malte Renken and Philipp Zschoche. Using A Geometric Lens to Find k Disjoint Shortest Paths |
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| Thursday, July 15th | | |
| 14:00- 15:00 | Session 5A: Streaming and Sketching | |
| 14:00- 14:10 | <u>253</u> | <u>David P. Woodruff</u> and <u>Samson Zhou</u> . Separations for Estimating Large Frequency Moments on Data Streams |
| 14:10- 14:20 | <u>287</u> | Lijie Chen, Gillat Kol, Dmitry Paramonov, Raghuvansh R. Saxena, Zhao Song and Huacheng Yu. Near-Optimal Two-Pass Streaming Algorithm for Sampling Random Walks over Directed Graphs |
| 14:20- 14:30 | <u>292</u> | <u>Dingyu Wang</u> , <u>Seth Pettie</u> and Longhui Yin. Non-Mergeable Sketching for Cardinality Estimation |
| 14:30- 14:40 | <u>284</u> | Sepehr Assadi and <u>Soheil Behnezhad</u> . Beating Two-Thirds For Random-Order Streaming Matching |
| 14:40- 14:50 | <u>273</u> | Yu Chen, Sanjeev Khanna and Ansh Nagda. Sublinear Time Hypergraph Sparsification via Cut and Edge Sampling Queries |
| 14:50- 15:00 | <u>289</u> | Kuan Cheng, Alireza Farhadi, Mohammadtaghi Hajiaghayi, Zhengzhong Jin, Xin Li, Aviad Rubinstein, Saeed Seddighin and Yu Zheng. Streaming and Small Space Approximation Algorithms for Edit Distance and Longest Common Subsequence |
| 14:00- 15:00 | Sess | ion 5B: Approximation |
| 14:00- 14:10 | <u>12</u> | <u>Gianlorenzo D'Angelo</u> , Debashmita Poddar and <u>Cosimo Vinci</u> . Improved Approximation Factor for Adaptive Influence Maximization via Simple Greedy Strategies |
| 14:10- 14:20 | <u>57</u> | Keren Censor-Hillel, Noa Marelly, Roy Schwartz and Tigran Tonoyan. Fault Tolerant Max-Cut |
| 14:20- 14:30 | <u>38</u> | Mathieu Mari, Chien-Chung Huang, Claire Mathieu and Jens Vygen. Approximating maximum integral multiflows on bounded genus graphs |
| 14:30- 14:40 | <u>191</u> | Zachary Friggstad and <u>Chaitanya Swamy</u> . Constant-Factor Approximation to Deadline TSP and Related Problems in (almost) Quasi-Polytime |
| 14:40- 14:50 | <u>142</u> | Andrei-Alexandru Graur and Noga Alon. Efficient Splitting of Necklaces |
| 14:50- 15:00 | <u>298</u> | Guy Blanc, Jane Lange and Li-Yang Tan. Learning stochastic decision trees |
| 14:00- 15:00 | Session 5C: Dynamic algorithms and data structures | |
| 14:00- 14:10 | <u>257</u> | Adam Karczmarz. Fully Dynamic Algorithms for Minimum Weight Cycle and Related Problems |
| 14:10- 14:20 | <u>265</u> | <u>Pankaj Agarwal</u> , <u>Xiao Hu</u> , <u>Stavros Sintos</u> and <u>Jun Yang</u> . Dynamic Enumeration of Similarity Joins |
| 14:20- 14:30 | 268 | Sayan Bhattacharya and Peter Kiss. Deterministic Rounding of Dynamic Fractional Matchings |
| 14:30- 14:40 | <u>97</u> | <u>Maximilian Probst Gutenberg</u> , Viktor Fredslund-Hansen, Jacob Evald and Christian Wulff-Nilsen. Decremental APSP in Unweighted Digraphs Versus an |

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| | | Adaptive Adversary | |
| 14:40- 14:50 | 328 | Stratis Skoulakis, Dimitris Fotakis, Panagiotis Kostopanagiotis, Georgios Piliouras and Vasileios Nakos. On the Approximability of Multistage Min-Sum Set Cover | |
| 14:50- 15:00 | <u>266</u> | Maria Hartmann, László Kozma, Corwin Sinnamon and Robert Tarjan. Analysis of Smooth Heaps and Slim Heaps | |
| | | Friday, July 16th | |
| 14:00- 15:00 | Session 6A: Isomorphism and Testing | | |
| 14:00- 14:10 | <u>4</u> | Markus Anders, Pascal Schweitzer and Florian Wetzels. Comparative Design-Choice Analysis of Color Refinement Algorithms Beyond the Worst Case | |
| 14:10- 14:20 | <u>60</u> | Jan Böker. Graph Similarity and Homomorphism Densities | |
| 14:20- 14:30 | <u>89</u> | Markus Anders and Pascal Schweitzer. Search Problems in Trees with Symmetries: near optimal traversal strategies for individualization-refinement algorithms | |
| 14:30- 14:40 | 118 | Yonatan Nakar and Dana Ron. Testing Dynamic Environments: Back to Basics | |
| 14:40- 14:50 | <u>176</u> | Reut Levi. Testing Triangle Freeness in the General Model in Graphs with Arboricity $O(\sqrt{n})$ | |
| 14:50- 15:00 | <u>158</u> | Ran Ben Basat, Michael Mitzenmacher and Shay Vargaftik. How to Send a Real Number Using a Single Bit (and Some Shared Randomness) | |
| 14:00- 15:00 | Session 6B: Random Walks and Counting | | |
| 14:00- 14:10 | <u>263</u> | Dimitris Achlioptas and Kostas Zampetakis. Local Approximations of the Independent Set Polynomial | |
| 14:10- 14:20 | <u>64</u> | <u>Ewan Davies</u> and <u>Will Perkins</u> . Approximately Counting Independent Sets of a Given Size in Bounded-degree Graphs | |
| 14:20- 14:30 | <u>189</u> | <u>Tobias Friedrich</u> , Andreas Göbel, Martin S. Krejca and Marcus Pappik. A spectral independence view on hard spheres via block dynamics | |
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| 14:40- 14:50 | <u>241</u> | Nicolas Rivera, Thomas Sauerwald and <u>John Sylvester</u> . Multiple Random Walks on Graphs: Mixing Few to Cover Many | |
| 14:50- 15:00 | <u>182</u> | Theo McKenzie and Sidhanth Mohanty. High-girth near-Ramanujan graphs with lossy vertex expansion | |
| 14:00- 15:00 | Session 6C: Geometric and Pattern Matching | | |
| 14:00- 14:10 | <u>221</u> | Pankaj K. Agarwal and Alex Steiger. An Output-Sensitive Algorithm for Computing the Union of Cubes and Fat Boxes in 3D | |
| 14:10- 14:20 | <u>247</u> | Robert Ganian, Thekla Hamm, Fabian Klute, Irene Parada and Birgit Vogtenhuber. Crossing-Optimal Extension of Simple Drawings | |
| 14:20- 14:30 | <u>351</u> | Ken-Ichi Kawarabayashi, Bojan Mohar, Roman Nedela and Peter Zeman. Automorphisms and isomorphisms of maps in linear time | |

| 14:30- 14:40 | <u>309</u> | Arnab Ganguly, Dhrumil Patel, Rahul Shah and Sharma Thankachan. LF Successor: Compact Space Indexing for Order-Isomorphic Pattern Matching |
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| 14:40- 14:50 | <u>236</u> | Shyan Akmal and Ce Jin. Faster Algorithms for Bounded Tree Edit Distance |
| 14:50- 15:00 | <u>168</u> | Jonas Ellert and Johannes Fischer. Linear Time Runs over General Ordered Alphabets |