

Program for HALG 2017

	Friday, June 9	Saturday, June 10		Sunday, June 11
8:45-9	Welcome Remarks			
9-10	Session 1 <i>MA001</i>	Session 5 - Stream A <i>MA001</i> (Contributed Talks)	Session 5 - Stream B <i>MA005</i> (Contributed Talks)	Session 9 <i>MA001</i>
10-11	Coffee Break	Coffee Break		Coffee Break
11-12	Session 2 <i>MA001</i>	Session 6 <i>MA001</i>		Session 10 <i>MA001</i>
12-13	Lunch Break	Lunch Break		Lunch Break
13-14				
14-15	Session 3 <i>MA001</i>	Session 7 - Stream A <i>MA001</i> (Contributed Talks)	Session 7 - Stream B <i>MA005</i> (Contributed Talks)	Session 11 <i>MA001</i>
15-16	Coffee Break	Coffee Break		Coffee Break
16-17	Session 4 <i>MA001</i>	Session 8 <i>MA001</i>		Session 12 <i>MA001</i>
17-18				Closing
18-19	Poster Session and Reception	Poster Session		
19-20		Business Meeting with drinks		

Friday, June 9

08:45 - 09:00	Welcome Remarks	MA001
Session 1	Session Chair: Stefano Leonardi	MA001
09:00 - 09:30	Ilias Diakonikolas Robust Estimators in High Dimensions without the Computational Intractability	
09:30 - 10:00	Mathias Bæk T. Knudsen Linear Hashing is Awesome	
10:00 - 10:30	Ilya P. Razenshteyn Hardness of Similarity Search	
10:30 - 11:00	Coffee Break	
Session 2	Session Chair: Artur Czumaj	MA001
11:00 - 12:00	Claire Mathieu Local search for clustering problems	
12:00 - 12:30	Zachary Friggstad Local Search Yields a PTAS for k-Means in doubling Metrics	
12:30 - 14:00	Lunch Break	
Session 3	Session Chair: Silvio Lattanzi	MA001
14:00 - 14:30	David Karger Faster and Simpler Network (Un)reliability Estimation	
14:30 - 15:00	Sushant Sachdeva Approximate Gaussian Elimination for Laplacians - Fast, Sparse and Simple	
15:00 - 15:30	Sanjeev Khanna On Estimating Maximum Matching Size in Graph Streams	
15:30 - 16:00	Coffee Break	
Session 4	Session Chair: Martin Skutella	HE 101
16:00 - 18:00	László Babai Group theory and combinatorics: The Graph Isomorphism problem	
18:00 - 19:30	Poster Session and Reception	

Saturday, June 10

09:00-10:30 Session 5, Contributed Talks

Stream A, HE 101, Session Chair: Aleksander Mardry

Shiri Chechik, Thomas Duelholm Hansen, Monika Henzinger, Giuseppe F. Italiano, Sebastian Krinninger, Veronika Loitzenbauer and Nikos Parotsidis Faster algorithms for maximal 2-connected subgraphs in directed graphs

Robert Krauthgamer and Ohad Trabelsi Conditional Lower Bounds for All-Pairs Max-Flow

Danupon Nanongkai and Thatchaphol Saranurak Dynamic Spanning Forest with Worst-Case Update Time: Adaptive, Las Vegas, and $\mathcal{O}(n^{\frac{1}{2}-\epsilon})$ -Time

Piotr Sankowski and Karol Węgrzycki Improved Distance Queries and Cycle Counting by Frobenius Normal Form

Fabrizio Grandoni, Tobias Mömke, Andreas Wiese and Hang Zhou To Augment or Not to Augment: Solving Unsplittable Flow on a Path by Creating Slack

Shiri Chechik, Thomas Dueholm Hansen, Giuseppe F. Italiano, Adam Karczmarz, Jakub Łącki, Nikos Parotsidis and Piotr Sankowski Improved Algorithms for Decremental Single-Source Reachability

Aris Anagnostopoulos, Jakub Łącki, Silvio Lattanzi, Stefano Leonardi and Mohammad Mahdian Community Detection on Evolving Graphs

Miriam Schlöter and Martin Skutella Fast and Memory-Efficient Algorithms for Evacuation Problems

Ola Svensson and Jakub Tarnawski The Matching Problem in General Graphs is in Quasi-NC

Ruben Becker, Andreas Karrenbauer, Sebastian Krinninger and Christoph Lenzen Near-Optimal Approximate Shortest Paths and Transshipment in Distributed and Streaming Models

Martin Groß, Anupam Gupta, Amit Kumar, Jannik Matuschke, Daniel R. Schmidt, Melanie Schmidt and José Verschae A Local-Search Algorithm for Steiner Forest

Sara Ahmadian, Ashkan Norouzi Fard, Ola Svensson and Justin Ward Better Guarantees for k-Means and Euclidean k-Median by Primal-Dual Algorithms

Stream B, MA005, Session Chair: Stephan Kreutzer

Josh Alman, Matthias Mnich and Virginia Vassilevska Williams Dynamic Parameterized Problems and Algorithms

Iyad Kanj, Christian Komusiewicz, Manuel Sorge and Erik Jan van Leeuwen Parameterized Complexity of Vertex-Partitioning Problems

Davis Issac, L. Sunil Chandran and Andreas Karrenbauer Parameterized Complexity of Biclique Cover and Partition

Klaus-Tycho Förster Local Checkability, No Strings Attached: (A)cyclicity, Reachability, Loop Free Updates in SDNs

Bhaskar Dasgupta, Marek Karpinski, Nasim Moshbashi and Farzane Yahyanejad Effect of Gromov-hyperbolicity Parameter on Cuts and Expansions in Graphs and Some Algorithmic Implications

Fabrice Benhamouda, Tancrede Lepoint, Claire Mathieu and Hang Zhou Optimization of Bootstrapping in Circuits

Marek Cygan, Marcin Mucha, Karol Węgrzycki and Michał Włodarczyk On problems equivalent to $(\min,+)$ -convolution

Marcin Jurdzinski and Ranko Lazic Succinct progress measures for solving parity games

Alexander Tiskin Semi-local LCS: superglue for string comparison

Talya Eden, Dana Ron and C. Seshadhri Approximating the number of k-cliques in a graph

Michael A. Bender, Erik D. Demaine, Roozbeh Ebrahimi, Jeremy Fineman, Rob Johnson, Andrea Lincoln, Jayson Lynch and Samuel Mccauley Cache-Adaptive Analysis

Nikhil Bansal, Shashwat Garg, Jesper Nederlof and Nikhil Vyas Faster Space-Efficient Algorithms for Subset Sum, k-Sum and Related Problems

10:30 - 11:00

Coffee Break

Session 6

Session Chair: Christian Sohler

HE 101

11:00 - 12:00

Sanjeev Arora Unsupervised learning to uncover semantics of data and language

12:00 - 12:30

Gregory Valiant Instance Optimal Learning of Discrete Distributions

12:30 - 14:00

Lunch Break

14:00-15:30 Session 7, Contributed Talks

Stream A, HE 101, Session Chair: Stefano Leonardi

Paul Duetting and **Thomas Kesselheim** Best-Response Dynamics in Combinatorial Auctions with Item Bidding

Ioannis Caragiannis, Aris Filos-Ratsikas, Søren Stiil Frederiksen, Kristoffer Arnsfelt Hansen and **Zihan Tan** Truthful Facility Assignment with Resource Augmentation: An Exact Analysis of Serial Dictatorship

Alon Eden, Michal Feldman, Ophir Friedler, Inbal Talgam-Cohen and **S. Matthew Weinberg** The Competition Complexity of Auctions: A Bulow-Klemperer Result for Multi-Dimensional Bidders

Thomas Kesselheim and **Andreas Tönnis** Think Eternally: Improved Algorithms for the Temp Secretary Problem and Extensions

Dušan Knop, Martin Koutecky and **Matthias Mnich** Voting and Bribing in Single-Exponential Time

Amir Ban, Yossi Azar and **Yishay Mansour** When Should an Expert Make Predictions?

Itai Ashlagi, Yossi Azar, Moses Charikar, Ashish Chiplunkar, Ofir Geri, Haim Kaplan, Rahul Makhijani, Yuyi Wang and **Roger Wattenhofer** Min-cost Matching with Delays

Joachim Spoerhase and **Sumedha Uniyal** Maximizing a Monotone Submodular Function Subject to a Covering and a Packing Constraint

Nikhil Bansal, Marek Elias, Lukasz Jez and **Grigorios Koumoutsos** The (h,k) -Server Problem on Bounded Depth Trees

Christian Coester, Elias Koutsoupias and **Philip Lazos** The Infinite Server Problem

Martin Böhm, Marek Chrobak, Łukasz Jeż, Fei Li, Jiří Sgall and **Pavel Veselý** Online Packet Scheduling with Bounded Delay and Lookahead

Stream B, MA005, Session Chair: Fabrizio Grandoni

Eliav Buchnik and **Edith Cohen** Reverse Ranking by Graph Structure: Model and Scalable Algorithms

Artur Czumaj, Pan Peng and **Christian Sohler** Relating Two Property Testing Models for Bounded Degree Directed Graphs

Yun Kuen Cheung, Gramoz Goranci, Monika Henzinger, Pan Peng and **Harald Räcke** Improved Upper and Lower Bounds for Vertex Sparsifiers

Leo N. Geppert, Katja Ickstadt, Jens Quedenfeld, Alexander Munteanu and **Christian Sohler** Random projections for Bayesian regression

Parinya Chalermsook, Syamantak Das, Bundit Laekhanukit and **Daniel Vaz** Beyond Metric Embedding: Approximating Group Steiner Trees on Bounded Treewidth Graphs

Alexandr Andoni, Lior Kamma and **Robert Krauthgamer** Batch Sparse Recovery, or How to Leverage the Average Sparsity

Michele Borassi, Pierluigi Crescenzi and **Luca Trevisan** An Axiomatic and an Average-Case Analysis of Algorithms and Heuristics for Metric Properties of Graphs

Matthias Poloczek, Georg Schnitger, David Williamson and **Anke van Zuylen** De-randomizing the Inherently(?) Probabilistic

Zeyuan Allen-Zhu, Aditya Bhaskara, Silvio Lattanzi, Vahab Mirrokni and **Lorenzo Orecchia** Expander via Local Edge Flips

Artur Czumaj and **Peter Davies** Exploiting Spontaneous Transmissions for Broadcasting and Leader Election in Radio Networks

15:30 - 16:00

Coffee Break

Session 8

Session Chair: Thomas Kesselheim

HE 101

16:00 - 16:30

S. Matthew Weinberg A Duality Based Unified Approach to Bayesian Mechanism Design

16:30 - 17:00

Aviad Rubenstein Settling the Complexity of Computing Approximate Two-player Nash Equilibria

17:00 - 17:30

Renato Paes-Leme Computing Walrasian Equilibria: Fast Algorithms and Structural Properties

17:30 - 18:00

Simon MacKenzie A Discrete and Bounded Envy-free Cake Cutting Protocol for Any Number of Agents

18:00 - 19:00

Poster Session

19:00 - 20:00

Business Meeting with drinks

Sunday, June 11

Session 9	Session Chair: Ola Svensson	HE 101
09:00 - 09:30	Karl Bringmann Truly Sub-cubic Algorithms for Language Edit Distance and RNA Folding via Fast Bounded-Difference Min-Plus Product	
09:30 - 10:00	Marco Mondelli Reed-Muller Codes Achieve Capacity on Erasure Channels	
10:00 - 10:30	Bart Jansen Fine-grained complexity analysis of two classic TSP variants	
10:30 - 11:00	Coffee Break	
Session 10	Session Chair: Robert Krauthgamer	HE 101
11:00 - 12:00	Tim Roughgarden Beyond Worst-Case Analysis	
12:00 - 12:30	Constantinos Daskalakis Learning in Auctions: Regret is Hard, Envy is Easy	
12:30 - 13:30	Lunch Break	
Session 11	Session Chair: Pierre Fraigniaud	HE 101
13:30 - 14:00	Mohsen Ghaffari An Improved Distributed Algorithm for Maximal Independent Set	
14:00 - 14:30	Ami Paz A $(2 + \epsilon)$ -Approximation for Maximum Weight Matching in the Semi-Streaming Model	
14:30 - 15:00	Merav Parter MST in Log-Star Rounds of Congested Clique	
15:00 - 15:30	Coffee Break	
Session 12	Session Chair: Artur Czumaj	HE 101
15:30 - 16:30	Nikhil Bansal Algorithmic Discrepancy beyond Partial Coloring	
16:30 - 17:00	Aravind Srinivasan Lift-and-Round to Improve Weighted Completion Time on Unrelated Machines	
17:00 - 17:30	Aleksander Madry Negative-Weight Shortest Paths and Unit Capacity Minimum Cost Flow in $\mathcal{O}(m^{\frac{10}{7}} \log W)$ Time	
17:30 - 17:45	Closing	