Monday, June 6, 2016

8:50-9:00 WELCOME REMARKS <Session chair: Artur Czumaj>

9:00-10:30 INVITED TALKS

9:00-10:00 Daniel Marx (Hungarian Academy of Sciences)
The optimality program for parameterized algorithms

10:00-10:30 Stephan Kreutzer (TU Berlin)
The directed grid theorem (joint work with Ken-ichi Kawarabayashi)

10:30-11:00 Coffee break

11:00-12:30 INVITED TALKS <Session chair: Christian Sohler>

11:00-11:30 Ken-ichi Kawarabayashi (National Institute of Informatics, Japan)
Deterministic global minimum cut of a simple graph in near-linear time (joint work with Mikkel Thorup)

11:30-12:00 Clifford Stein (Columbia University)
Faster fully dynamic matchings with small approximation ratios (joint work with Aaron Bernstein)

12:00-12:30 Monika Henzinger (Universität Wien)
Using the primal-dual method to design dynamic graph algorithms (joint work with Sayan Bhattacharya and Giuseppe F. Italiano)

12:30-14:00 Lunch break

14:00-16:00 INVITED TALKS <Session chair: Stefano Leonardi>

14:00-15:00 Costis Daskalakis (MIT)
Reduction from mechanism design to optimization
15:00-15:30 Stephen Alstrup (University of Copenhagen)
Recent results in labeling schemes

15:30-16:00 Shiri Chechik (Tel Aviv University)
Approximate distance oracles with improved bounds

16:00-16:30 Coffee break

16:30-18:30 INVITED TALKS <Session chair: Pierre Fraigniaud>

  16:30-17:00 Anupam Gupta (CMU)
  Greedy algorithms for Steiner forest (joint work with Amit Kumar)

  17:00-17:30 Nikhil Bansal (Eindhoven University of Technology)
  Minimizing flow-time on unrelated machines (joint work with Janardhan Kulkarni)

  17:30-18:00 Yossi Azar (Tel Aviv University)
  Speed scaling in the non Clairvoyant model (joint work with Nikhil Devanur, Zhiyi Huang, and Debmalya Panigrah)

Tuesday, June 7, 2016

9:00-10:30 INVITED TALKS <Session chair: Anupam Gupta>

  9:00-10:00 Virginia Vassilevska Williams (Stanford)
  On complexity/hardness in P

  10:00-10:30 Arturs Backurs (MIT)
  Edit distance cannot be computed in strongly subquadratic time (unless SETH is false) (joint work with Piotr Indyk)

10:30-11:00 Coffee break

11:00-12:30 INVITED TALKS <Session chair: Nikhil Bansal>

  11:00-11:30 Ilias Diakonikolas (University of Southern California)
  Hypothesis testing for structured probability distributions (joint work with Daniel M. Kane and Vladimir Nikishkin)

  11:30-12:00 Christian Sohler (TU Dortmund)
  Testing cluster structure of graphs (joint work with Artur Czumaj and Pan Peng)

12:30-14:00 Lunch break + POSTER PRESENTATIONS
14:00-16:00 SHORT CONTRIBUTED TALKS (parallel sessions, in Amphitheater 1 and 2 of Building Olympe de Gouges)

**Session A** (Amphitheater 1) <Session chair: Robi Krauthgamer>
- Parinya Chalermsook, Pattern-avoiding Access in Binary Search Trees
- John Iacono, Weighted Dynamic Finger in Binary Search Trees
- Ferdinando Cicalese, On the Simultaneous Optimization of Worst and Expected Testing Cost in Decision Tree Problems
- Thatchaphol Saranurak, Unifying and Strengthening Hardness for Dynamic Problems via the Online Matrix-Vector Multiplication Conjecture
- Shashwat Garg, Improved Algorithmic Bounds for Discrepancy of Sparse Set Systems
- Khaled Elbassioni, Finding Small Hitting Sets in Infinite Range Spaces of Bounded VC-dimension

**Session A** (Amphitheater 1) <Session chair: Robi Krauthgamer>
- Samuel Hopkin, SoS and Planted Clique: an Almost Optimal Lower Bound
- Klaus-Tycho Förster, On Consistent Migration of Flows in SDNs
- Amitabh Trehan, Compact Routing Messages in Self-Healing Trees
- Peter Davies, Faster Deterministic Communication in Radio Networks
- Emanuele Natale, Dynamics, Consensus, and Distributed Community Detection
- Petr Kuznetsov, On the Space Complexity of Set Agreement

**Session B** (Amphitheater 2) <Session chair: Artur Czumaj>
- Erik Jan van Leeuwen, Do Long Paths Block the Way to Easy Independence?
- Valia Mitsou, Double-exponential and Triple-exponential Bounds for Choosability Problems Parameterized by Treewidth
- Seeun William Umboh, Robust Algorithms for Noisy Minor Free and Bounded Treewidth Graphs

**Session B** (Amphitheater 2) <Session chair: Artur Czumaj>
- Pavel Dvořák, Parameterized Complexity of Length-bounded Cuts and Multi-cuts
- Rajesh Chitnis, Parameterized and Promised Streaming Algorithms
- Mateus de Oliveira Oliveira, An Algorithmic Metatheorem for Directed Treewidth
- Pavel Kolev, A Note on Spectral Clustering
- Tselil Schramm, Overcomplete Tensor Decomposition: Fast Spectral Algorithms from Sum-of-Squares Analyses
- Aurélien Ooms, Solving k-SUM Using Few Linear Queries
Thomas Kesselheim, Secretary Problems with Non-Uniform Arrival Order

Rani Izsak, The Supermodular Degree

Paul Duetting, Algorithms as Mechanisms: The Price of Anarchy of Relax-and-Round

**16:00-16:30** Coffee break + POSTER PRESENTATIONS

**16:30-17:30** INVITED TALK <Session chair: Claire Mathieu>

*16:30-17:30* Ryan Williams (Stanford)

New applications of the polynomial method to algorithm design

**17:40-18:40** SHORT CONTRIBUTED TALKS (parallel sessions, in Amphitheater 1 and 2 of Building Olympe de Gouges)

**Session A** (Amphitheater 1) <Session chair: Alexandr Andoni>

- Bartosz Walczak, Outer Common Tangents and Nesting of Convex Hulls in Linear Time and Constant Workspace
- Nicolas Schabanel, Folding Turing is Hard but Feasible
- Nithin Varma, Erasure-Resilient Property Testing
- Arkadiusz Socała, Tight Lower Bounds on Graph Embedding Problems
- Elazar Goldenberg, Streaming Algorithms for Embedding and Computing Edit Distance in the Low Distance Regime
- Arnold Filtser. On Notions of Distortion

**Session B** (Amphitheater 2) <Session chair: Aleksander Madry>

- Jiří Sgall, General Caching Is Hard: Even with Small Pages
- Moti Medina, Better Online Deterministic Packet Routing on Grids
- Kevin Schewior, Improvements on Online Machine Minimization
- Jakub Łącki, Algorithmic Complexity of Power Law Networks
- Sebastian Krinninger, A Deterministic Almost-Tight Distributed Algorithm for Approximating Single-Source Shortest Paths

**19:15-20:15** (or shorter) BUSINESS MEETING

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**Wednesday, June 8, 2016**

**9:00-10:30** INVITED TALKS <Session chair: Pino Italiano>

- 9:00- 9:30 Greg Bodwin (Stanford)
The 4/3 additive spanner exponent is tight (joint work with Amir Abboud)

9:30-10:00 Huacheng Yu (Stanford)
An improved combinatorial algorithm for Boolean matrix multiplication

10:00-10:30 Ola Svensson (EPFL)
Approximating ATSP by relaxing connectivity

10:30-11:00 Coffee break + POSTER PRESENTATIONS

11:00-12:30 INVITED TALKS <Session chair: Piotr Sankowski>

11:00-12:00 Aleksander Madry (MIT)
Fast graph algorithms and continuous optimization

12:00-12:30 Shayan Oveis Gharan (University of Washington)
Effective-resistance-reducing flows, spectrally thin trees, and asymmetric TSP (joint work with Nima Anari)

12:30-14:00 Lunch break

14:00-15:30 INVITED TALKS <Session chair: Ola Svensson>

14:00-15:00 Aaron Sidford (MIT)
Faster algorithms for convex optimization

15:00-15:30 David Mount (University of Maryland)
A fast and simple algorithm for computing approximate Euclidean minimum spanning trees (joint work with Sunil Arya)

15:30-16:00 Coffee break

16:00-17:30 INVITED TALKS <Session chair: Aleksander Madry>

16:00-16:30 Moshe Lewenstein (Bar Ilan University)
Clustered integer 3SUM via additive combinatorics (joint work with Timothy M. Chan)

16:30-17:00 Alexandr Andoni (Columbia University)
Optimal data-dependent hashing for approximate near neighbors (joint work with Ilya Razenshteyn)

17:00-17:30 Robert Krauthgamer (Weizmann Institute)
Sketching and embedding are equivalent for norms (joint work with Alexandr Andoni and Ilya P. Razenshteyn)
17:30 CONFERENCE ADJOURNED