

Dagstuhl Seminar 11241

Design and Analysis of Randomized and Approximation Algorithms

Tuesday, June 14th, 2011

09:00 - 09:10 Opening

Chair: Marek Karpinski

09:10 - 09:40 Johan Håstad (KTH - Stockholm)
On the Usefulness of Predicates

09:40 - 10:10 Alexander Barvinok (University of Michigan - Ann Arbor)
Counting Contingency Tables

10:10 - 10:40 Leslie Ann Goldberg (University of Liverpool)
Estimating the Partition Function of the Ferromagnetic Ising Model on a Regular Matroid

10:40 - 11:00 Coffee break

Chair: Uriel Feige

11:00 - 11:30 Leen Stougie (CWI - Amsterdam)
TSP on Cubic and Subcubic Graphs

11:30 - 12:00 Ola Svensson (KTH - Stockholm)
Approximating Graphic TSP by Matchings

12:15 Lunch break

Chair: Martin Dyer

15:00 - 15:30 Po-Shen Loh (Carnegie Mellon University - Pittsburgh)
Connectivity in Discrete Random Processes

15:30 - 16:00 Lars Prädél (University of Kiel)
A $(5/3 + \epsilon)$ -Approximation for Strip Packing

16:00 - 16:30 Coffee break

Chair: Alan Frieze

16:30 - 17:00 Christian Sohler (TU Dortmund)
Every Hyperfinite Property is Testable

17:00 - 17:30 Alexandr Andoni (Microsoft Research - Mountain View)
Sublinear Algorithms via Precision Sampling

18:00 Dinner

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Wednesday, June 15th, 2011

Chair: Mark Jerrum

09:00 - 09:30 Thomas Hayes (University of New Mexico - Albuquerque)
Lifting Markov Chains for Faster Mixing

09:30 - 10:00 Gregory Sorkin (London School of Economics)
Average-Case Performance of Heuristics for Multi-Dimensional Assignment Problems

10:00 - 10:30 Michael Krivelevich (Tel Aviv University)
Embedding Spanning Trees in Random Graphs near the Connectivity Threshold

10:30 - 11:00 Coffee break

Chair: Michael Paterson

11:00 - 11:30 R. Ravi (Carnegie Mellon University - Pittsburgh)
Stochastic Knapsack

11:30 - 12:00 Heiko Röglin (University of Bonn)
Smoothed Analysis of Multiobject Optimization

12:15 Lunch break

13:30 - 17:30 Excursion

18:00 Dinner

20:00 Open Problem Session

Chair: Uriel Feige

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Thursday, June 16th, 2011

Chair: Leslie Ann Goldberg

09:00 - 09:30 Ravi Kannan (Microsoft Research)

k-Means Algorithm Converges

09:30 - 10:00 Tobias Müller (CWI - Amsterdam)

Random Geometric Graphs

10:00 - 10:30 Mark Jerrum (Queen Mary University of London)

Hardness of Approximating the Tutte Polynomial of a Binary Matroid

10:30 - 11:00 Coffee break

Chair: Alan Frieze

11:00 - 11:30 Edyta Szymanska (Adam Mickiewicz University - Poznan)

Computational Complexity of the Hamilton Cycle Problem in Dense Hypergraphs

11:30 - 12:00 Andrzej Rucinski (Adam Mickiewicz University - Poznan)

Distributed Storage Allocation via Fractional Hypergraph Matchings

12:15 Lunch break

Chair: Michael Krivelevich

15:00 - 15:30 Berthold Vöcking (RWTH Aachen)

Universally-Truthful Multi-Unit Auctions

15:30 - 16:00 Markus Bläser (University of Saarland)

Smoothed Analysis of Partitioning Algorithms for Euclidean Functionals

16:00 - 16:30 Coffee break

18:00 Dinner

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Friday, June 17th, 2011

Chair: Johan Håstad

09:00 - 09:30 Marek Karpinski (University of Bonn)
Approximating Gale-Berlekamp Games and Related Optimization Problems

09:30 - 10:00 Alan Frieze (Carnegie Mellon University - Pittsburgh)
Vacant Set of a Random Walk on a Random Graph

10:00 - 10:30 Alessandro Panconesi (University of Rome "La Sapienza")
Milgram Routing

10:30 - 11:00 Coffee break

Chair: Ravi Kannan

11:00 - 11:30 Amin Coja-Oghlan (University of Warwick)
The Condensation Transition in Random Hypergraph 2-Coloring

11:30 - 12:00 Eden Chlamtac (Weizmann Institute - Rehovot)
Linear Index Coding via Semidefinite Programming

END OF WORKSHOP

12:15 Lunch