

CSDM Seminars

[Computer Science/Discrete Mathematics Seminar II](#)

Submitted by admin on Wed, 01/09/2013 - 19:01

Delegation for Bounded Space

Series: Computer Science/Discrete Mathematics

Ran Raz

Weizmann Institute; Member, School of Mathematics

Date & Time: Tue, 12/04/2012 - 10:30 - 12:30

Location: S-101

Video Link:

<http://video.ias.edu/1213/csdm/RanRaz-1204>

terms:

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[Computer Science/Discrete Mathematics Seminar I](#)

Submitted by admin on Wed, 01/09/2013 - 19:01

Matching: A New Proof for an Ancient Algorithm

Series: Computer Science/Discrete Mathematics

Vijay Vazirani

Georgia Institute of Technology

Date & Time: Mon, 12/10/2012 - 11:15 - 12:15

Location: S-101

Video Link:

<http://video.ias.edu/1213/csdm/VijayVazirani1210>

For all practical purposes, the Micali-Vazirani algorithm, discovered in 1980, is still the most efficient known maximum matching algorithm (for very dense graphs, slight asymptotic improvement can be obtained using fast matrix multiplication). However, this has remained a ``black box" result for the last 32 years.

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Submitted by admin on Wed, 01/09/2013 - 19:01

Series: Computer Science/Discrete Mathematics

No Seminar (Oberwolfach)

Date & Time: Tue, 11/13/2012 - 10:30 - 12:30

Location: S-101

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[Computer Science/Discrete Mathematics Seminar I](#)

Submitted by admin on Wed, 01/09/2013 - 19:01

A Complete Dichotomy Rises from the Capture of Vanishing Signatures

Series: Computer Science/Discrete Mathematics

Jin-Yi Cai

University of Wisconsin

Date & Time: Mon, 11/19/2012 - 11:15 - 12:15

Location: S-101

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Submitted by admin on Wed, 01/09/2013 - 19:01

On the Complexity of Matrix Multiplication and Other Tensors

Series: Computer Science/Discrete Mathematics

Joseph Landsberg

Texas A&M University

Date & Time: Tue, 11/20/2012 - 10:30 - 12:30

Location: S-101

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[Computer Science/Discrete Mathematics Seminar I](#)

Submitted by admin on Wed, 01/09/2013 - 19:01

Polynomial Identity Testing of Read-Once Oblivious Algebraic Branching Progress

Series: Computer Science/Discrete Mathematics

Michael Forbes

Massachusetts Institute of Technology

Date & Time: Mon, 11/26/2012 - 11:15 - 12:15

Location: S-101

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Submitted by admin on Wed, 01/09/2013 - 19:01

Combinatorial PCPs with Short Proofs

Series: Computer Science/Discrete Mathematics

Or Meir

Stanford University; Member, School of Mathematics

Date & Time: Tue, 12/11/2012 - 10:30 - 12:30

Location: S-101

Video Link:

<http://video.ias.edu/1213/csdm/OrMeir-1211>

The PCP theorem (Arora et. al., J. ACM 45(1,3)) asserts the existence of proofs that can be verified by reading a very small part of the proof. Since the discovery of the theorem, there has been a considerable work on improving the theorem in terms of the length of the proofs, culminating in the construction of PCPs of quasi-linear length, by Ben-Sasson and Sudan (SICOMP 38(2)) and Dinur (J. ACM 54(3)). One common theme in the aforementioned PCP constructions is that they all rely heavily on sophisticated algebraic machinery. The aforementioned work of Dinur (J.

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Information Complexity and Exact Communication Bounds

Series: Computer Science/Discrete Mathematics

Mark Braverman

Princeton University

Date & Time: Mon, 12/03/2012 - 11:15 - 12:15

Location: S-101

Video Link:

<http://video.ias.edu/1213/csdm/MarkBraverman-1203>

In this talk we will discuss information complexity -- a measure of the amount of information Alice and Bob need to exchange to solve a problem over distributed inputs. We will present an information-theoretically optimal protocol for computing the AND of two bits distributed between Alice and Bob. We prove that the information complexity of AND is ~ 1.4923 bits. We use the optimal protocol and its properties to obtain tight bounds for the Disjointness problem, showing that the randomized communication complexity of Disjointness on n bits is $\sim 0.4827n \pm o(n)$.

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Submitted by admin on Wed, 01/09/2013 - 19:01

On the AND- and OR-Conjectures: Limits to Efficient Preprocessing

Series: Computer Science/Discrete Mathematics

Andrew Drucker

Massachusetts Institute of Technology; Member, School of Mathematics

Date & Time: Tue, 10/16/2012 - 10:30 - 12:30

Location: S-101

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Submitted by admin on Wed, 01/09/2013 - 19:01

CSDM Seminars

Series: Computer Science/Discrete Mathematics
No Seminar (FOCS Meeting)
Date & Time: Mon, 10/22/2012 - 11:15 - 12:15
Location: S-101

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