

## Computer Science/Discrete Mathematics Seminar I

Submitted by admin on Tue, 01/29/2013 - 17:01

Influences, Traces, Tribes, and Perhaps Also Thresholds

**Series:** Computer Science/Discrete Mathematics

Gil Kalai

Hebrew University; Yale University

**Date & Time:** Mon, 02/04/2013 - 11:15 - 12:15

**Location:** S-101

**Video Link:**

<http://video.ias.edu/1213/csdm/0204-GilKalai>

I will describe some recent results and problems regarding influence of sets of variables on Boolean functions: In 1989 Benny Chor conjectured that a balanced Boolean function with  $n$  variables has a subset  $S$  of size  $0.4n$  with influence  $(1-c)^n$  where  $c \geq 0$  follows from a theorem by Kahn, Kalai and Linial (KKL). I will present a recent counterexample by Kahn and me showing that up to the identity of  $c$ , the KKL bound cannot be improved. I will discuss also relations with traces and with Sauer-Shelah theorem, some related new constructions with Jeff Kahn, and earlier constructions by Bollobas and Radcliffe and by Shelah and me. I will also discuss some conjectures with Kahn on the large threshold interval of a monotone Boolean function.

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Mon, 11/26/2012 - 14:23

Tue, 01/29/2013 - 20:54

terms:

- [CSDM Seminars](#)