

abstract

COMPUTER SCIENCE/DISCRETE MATH II

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

The main result of this work is an explicit disperser for two independent sources on n bits, each of entropy $k = n^{o(1)}$. Put differently, setting $N = 2^n$ and $K = 2^k$, we construct explicit $N \times N$ Boolean matrices for which no $K \times K$ submatrix is monochromatic. Viewed as adjacency matrices of bipartite graphs, this gives an explicit construction of K -Ramsey bipartite graphs of size N .

Our disperser is obtained by generalizing the Challenge-Response Mechanism of \cite{BarakKSSW05} so that we can apply it in a recursive manner to find the min-entropy concentrations in a source of low min-entropy.

This is joint work with Boaz Barak, Ronen Shaltiel and Avi Wigderson.