abstract

COMPUTER SCIENCE/DISCRETE MATH I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We use a Bayesian approach to optimally solve problems in noisy binary search. We deal with two variants:

1. Each comparison can be erroneous with some probability 1 - p.
2. At each stage k comparisons can be performed in parallel and a noisy answer is returned

We present a (classic) algorithm which optimally solves both variants together, up to an additive term of O(log log (n)), and prove matching information theoretic lower bounds. We use the algorithm with the results of Farhi et al. (FGGS99) presenting a quantum search algorithm in an ordered list of expected complexity less than log(n)/3, and some improved quantum lower bounds on noisy search, and search with an error probability

Joint work with Michael Ben-Or.