abstract

Computer Science/Discrete Mathematics Seminar I
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We study some problems relating to polynomials evaluated either at random Gaussian or random Bernoulli inputs. We present some new work on a structure theorem for degree-d polynomials with Gaussian inputs. In particular, if p is a given degree-d polynomial, then p can be written in terms of some bounded number of other polynomials q_1,...,q_m so that the joint probability density function of q_1(G),...,q_m(G) is close to being bounded. This says essentially that any abnormalities in the distribution of p(G) can be explained by the way in which p decomposes into the q_i . We then present some applications of this result.