

## **abstract**

COMPUTER SCIENCE/DISCRETE MATH I

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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We study the model of approximation and calculation of constant degree multivariate polynomials over finite fields. We prove that if a constant degree polynomial can be approximated by a function of a constant number of lower degree polynomials, it can in fact be computed exactly by a function of a constant number of lower degree polynomials. This shows that in this model, approximation and exact calculation are qualitatively equivalent. The technical part of the work is a generalization of a theorem of Green & Tao, showing a structure-randomness dichotomy for constant degree multivariate polynomials.