The Trivial Notions Seminar
Proudly Announces

Random Hyperplane Slicing and the Bertini Irreducibility Theorem

A talk by

Geoffry Smith

Abstract

The Bertini irreducibility theorem states if X is an irreducible variety in $\mathbf{P}^N$, a general hyperplane in $\mathbf{P}^N$ intersects X in a variety that is itself irreducible. A delightful recent paper of Poonen and Slavov proves this fact and moreover shows that the dimension of the space of reducible hyperplane sections is at most $N - \dim(X) + 1$. They prove this fact by estimating the number of points on a random hyperplane section of X defined over a finite field, and showing that this is incompatible with too many hyperplane sections being reducible. In this talk, I'll explain this proof.

Friday, February 28th, at 1:30 pm
Science Center 530