Queen's Algebraic Geometry
— Seminar —

Arrangements of Linear Spaces
Thin & Fat: Results, Conjectures and Open Problems

TONY GERAMITA
Queen's University

Abstract

An arrangement of linear spaces is simply a finite union of $\mathbb{P}^r$'s contained in a fixed $\mathbb{P}^n$ (where r can be anything from 0 to $n-1$ and not all the r's need be the same). A very general problem that has attracted attention for over a century is: what useful things can we say about the Hilbert function of such an arrangement?

In this talk I'll quickly review some of the things that are known about the problem and also mention some reasons why one might care about a solution! I'll also describe some recent results (joint with Marvi Catalisano and Enrico Carlini) about such arrangements as well as a general conjecture and some open problems. While it would be impossible to give the proofs of our results in one hour, I'd like to explain a few of our techniques in detail. They are a pleasant blend of commutative algebra and algebraic geometry.

Monday, November 30, 2009
3:00pm – 4:00pm
319 Jeffery Hall