

# Berkeley-Stanford Joint Algebraic Geometry Seminar

Tuesday, December 10, at Berkeley

**CRAIG HUNEKE**

University of Kansas

Time and Room TBA (late afternoon)

**Free resolutions and initial ideals**

**Abstract:** This talk will discuss two fundamental objects in commutative algebra: the minimal free graded resolution of a homogeneous ideal in a polynomial ring and initial ideals of homogeneous ideals in polynomial rings. The main question in this talk will be: what is the relationship, if any, between these two objects? We will survey some known results, and then talk about some recent progress made this semester at MSRI.

**KAREN SMITH**

University of Michigan

Time and Room TBA (late afternoon)

**Jumping Numbers and Multiplier Ideals**

**Abstract:** Jumping numbers and Multiplier ideals can be described as new invariants of singularities. I'll try to present a snapshot of an ongoing joint project with Lawrence Ein and Rob Lazarsfeld in which we apply multiplier ideals to prove uniform results in commutative algebra.

**There will be a dinner afterward.**

This seminar will alternate between Stanford and Berkeley. To organize transportation from Stanford to Berkeley, please contact Ravi Vakil. The next seminar will be Tuesday, February 11, at Stanford.

<http://math.stanford.edu/~vakil/bs.html>