

Berkeley-Stanford Algebraic Geometry Seminar

Tuesday, October 26, at Stanford (Rm. 383-N, 3:30–4:30 and 5:00–6:00)

SERGEY YUZVINSKY (University of Oregon):
Differential operators annihilating a polynomial

Abstract: In the talk we will discuss two themes whose relations have not yet been studied much. The first one concerns with first degree operators with polynomial coefficients. In the case where the annihilated polynomial is the product of linear forms this theme has a long history (started by K. Saito) and an unresolved conjecture. The second one concerns with operators of arbitrary degrees but with constant coefficients. The ideal of these operators annihilating an arbitrary homogeneous polynomial was studied by Macaulay. We will draw parallel between these two topics, recall how they interplay for finite reflection groups, and state a conjecture.

RAHUL PANDHARIPANDE (Princeton): Gromov-Witten theory,
Donaldson-Thomas theory, and the Hilbert scheme of points of the plane

Abstract: I will mainly speak about the local Gromov-Witten theory of curves in threefolds (joint with J. Bryan). The entire theory is determined in the TQFT formalism by two exact calculations. The local theory is connected to Donaldson-Thomas theory via a GW/DT correspondence. More recently, the local theory has been found to compute the quantum cohomology of the Hilbert scheme of points of the plane (joint with A. Okounkov).

There will be a dinner afterward.

This seminar alternates between Stanford and Berkeley. To organize transportation from Berkeley to Stanford, please contact David Eisenbud or Tom Graber.

<http://math.stanford.edu/~vakil/s0405/>