Stanford Department of Mathematics Colloquium

Counting curves in complex manifolds

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Abstract

There are many ways to count holomorphic curves in complex manifolds. The famous MNOP conjecture relates two of them – Gromov-Witten theory, which counts parameterised curves (i.e., maps to the manifold), and sheaf theory, which counts unparameterised curves (i.e., embedded one-dimensional subschemes), at least when the ambient manifold is a 3-dimensional algebraic variety. I will describe these theories, and describe an unpleasant feature of the second theory which forces us to count fat points (i.e., certain 0-dimensional subschemes) too! Finally, I will describe a third way to count curves which resolves this unpleasantness. This is joint work with Rahul Pandharipande.

Thursday, February 19
4:15 p.m.
Bldg. 380, Room 380-W.

http://math.stanford.edu/coll/0809/