

Speaker: Dan Abramovich

Title: Logarithmic curve counts and their decomposition

Abstract: Logarithmic Gromov-Witten theory is a formalism for counting curves on a smooth algebraic variety X satisfying tangency conditions with a given normal-crossings divisor D , and more generally on logarithmically smooth varieties. This makes it suitable for degeneration techniques. This is relevant also for arithmetic - in current work, Chen and Zhu construct rational curves on smooth varieties by lifting logarithmic curves from singular ones.

The goal of this lecture is to explain one step - the decomposition formula - in a program in which logarithmic Gromov-Witten invariants of a smooth variety X are written in terms of invariants of simpler varieties, which are pieces of a degeneration X' of X .

A rough decomposition of the lecture is as follows:

Part 1: What are logarithmic structures and how do they appear in moduli spaces?

Part 2: The decomposition formula through examples.

Part 3: The basic monoid.