

# The Hierarchy Among Unimodular Triangulations and Friends

*Date* October 15

*Time* 3 pm

*Location* 303 Mudd

*Abstract* Many combinatorial properties of lattice polytopes translate directly to algebraic properties of toric ideals. As a result, combinatorial results regarding classes of lattice polytopes that admit "nice" coverings and triangulations are of interest in many branches of mathematics. My discussion here will describe the hierarchy of combinatorial properties and some corresponding implications. Particular attention will be given to one of the most user friendly (and strongest) relationships, that between quadratic triangulations and quadratic Grobner bases, including some search methods that have yielded positive results.