## Queen's Algebraic Geometry — Seminar —

## TORIC GEOMETRY AND CERTAIN CONVEX POLYTOPES

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## Abstract

Toric enbeddings are associated to convex lattice polytopes. A lot of the geometry of the embedded variety is detected via combinatorial invariants of the polytope and viceversa. The interplay between toric algebraic geometry and convex geometry has become an important tool both in Algebraic Geometry and other areas like Combinatorics and Statistics. The aim of this seminar is to report on some (recent and less recent) results for non singular toric embeddings, which translates to unexpected combinatorial properties of the associated convex polytopes. More precisely, adjoint properties, and dual properties of toric embeddings forces the variety to have a linear fibered structure and in turn the convex polytope to be a Cayley type polytope.

Monday, October 19, 2009 3:00pm – 4:00pm 319 Jeffery Hall