



## Algebra and Number Theory Seminar

**Title:** PhD Defence: Classification of Isogeny classes of Supersingular Abelian Varieties over Finite Fields

**Speaker:** Vijaykumar Singh

**Date:** Thu 9th June 2011 at 2:30PM

**Location:** Mathematical Sciences Seminar Room

**Abstract:** We study the intersection of two particular Fermat hyper-surfaces in  $P^3$  over a finite field. Using Rosende decomposition we study arithmetic properties of this curve in terms of its quotients. Explicit computation of rank, zeta function, and number of rational points, of the moduli reduction of the curve. We show that it splits. We also give a complete classification of the isogeny classes of supersingular abelian varieties for Tate Theory.