abstract

ANALYTIC AND GEOMETRIC NUMBER THEORY SEMINAR
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Let E be an elliptic curve over Q and let Q(E[n]) be its n-th division field. In 1972, Serre showed that if E is without complex multiplication, then the Galois group of Q(E[n])/Q is as large as possible, that is, GL_2(Z/n Z), for all integers n coprime to a constant integer c(E, Q) depending (at most) on E/Q. Serre also showed that the best one can hope for is to have |GL_2(Z/n Z) : Gal(Q(E[n])/Q)| at most 2 for all nonzero integers n. I will discuss the frequency of this optimal situation in a one-parameter family of elliptic curves over Q. This is joint work with David Grant and Nathan Jones.