K-Theory, Quadratic Forms and Number Theory Seminar

Title: Serre curves in one–parameter families

Speaker: Dr. Alina Carmen Cojocaru (UIC and MPIM)

Date: Wed 29th April 2009 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: For an elliptic curve E defined over the field of rational numbers, we consider its absolute Galois representation. By a celebrated theorem of Serre from 1972, if E is without complex multiplication, then its absolute Galois representation has open image. If the image has index 2 in the codomain, then E is called a Serre curve. I will discuss the occurrence of Serre curves as specializations of an elliptic surface. This is joint work with David Grant (University of Colorado) and Nathan Jones (Hausdorff Institute and Max Planck Institute).