ALGEBRA
SEMINAR

Torsion in Odd Degree

Abbey Bourdon
University of Georgia

Abstract: Let E be an elliptic curve defined over a number field F. It is a classical theorem of Mordell and Weil that the collection of points of E with coordinates in F form a finitely generated abelian group. We seek to understand the subgroup of points with finite order. In particular, given a positive integer d, we would like to know precisely which abelian groups arise as the torsion subgroup of an elliptic curve defined over a number field of degree d. I will discuss recent progress on this problem for the special class of elliptic curves with complex multiplication (CM). In particular, if d is odd, we now have a complete classification of the groups that arise as the torsion subgroup of a CM elliptic curve defined over a number field of degree d. This is joint work with Paul Pollack.

Tuesday, December 1, 2015, 4:00 pm
Mathematics and Science Center: W304

MATHEMATICS AND COMPUTER SCIENCE
EMORY UNIVERSITY