

Time: Thursday May 5th, 2011 9:00am

Location: Buchanan A202

**Computing points on elliptic curves using Shimura curves**

Sarah Chisholm, University of Calgary

Modular curves can be used to parametrize elliptic curves and in particular to find points on elliptic curves, that is, points satisfying the curve equation  $y^2 = x^3 + Ax + B$  over a particular field. Points computed in this way are related to the Birch and Swinnerton-Dyer conjecture (one of the million dollar Millennium Prize Problems). A modern version of this classical approach is to generalize this method to a larger class of curves called Shimura curves, giving a method to compute points on more elliptic curves.