Mathematics, Statistics, and Computer Science   **@ UIC**

Departmental Colloquium

Atkin Memorial Lecture: The congruent number problem and L-functions

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Abstract: A thousand years old problem is to determine which positive integers are congruent numbers, i,e, those numbers which could be the areas of right angled triangles with sides of rational lengths. This problem has some beautiful connections with elliptic curves and L-functions. In fact by the Birch and Swinnerton-Dyer conjecture, all n= 5, 6, 7 mod 8 should congruent numbers, and most of n=1, 2, 3 mod 8 should not not congruent numbers. In this lecture, I will explain these connections and then some recent progress based on the Waldspurger formula and the Gross–Zagier formula.

This is The talk is followed by reception, dinner, and a workshop on Saturday and Sunday. The speakers are Kestutis Cesnavicius (MIT), David Hansen (Jussieu), Robert Harron (Wisconsin-Madison), Andrei Jorza, Kazuya Kato (University of Chicago), Yifeng Liu (MIT), Christopher Skinner (Princeton), Ander Steele (Calgary), Wei Zhang (Columbia), and Shou-Wu Zhang (Princeton). For details please see http://www.math.uic.edu/~rtakloo/atkin2014

Friday, May 2 at 3:00 PM in LC C4