ALGEBRAIC GEOMETRY AND NUMBER THEORY SEMINAR

3:30 PM, Wednesday, October 22, 2014, Martin M-102

Champion primes for elliptic curves

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Let E be an elliptic curve defined over $\mathbb{Q}$. Let

$$a_E(p) = p + 1 - \#E(\mathbb{F}_p)$$

to be the trace of the Frobenius of p acting on the torsion of E. Hasse's theorem tells us that $|a_E(p)| < 2\sqrt{p}$. For an elliptic curve E, we say that a prime p is a ***champion prime*** if $a_E(p) = -\lfloor\sqrt{4p}\rfloor$. We will discuss the number of champion primes for an elliptic curve E having complex multiplication.

I will attempt to make this talk as self contained as possible and explain most of the above terminology at the level of our MS students.

All welcome. Research students in particular are encouraged to attend.

For further information, contact Jim Brown, jimlb@clemson.edu, Long 111.
Online: http://www.math.clemson.edu/~jimlb/NumberTheoryGroup/NTSeminar.html/