Philadelphia Area Number Theory Seminar

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Picard Curves with Good Reduction away from $p = 3$

Abstract: Picard curves are genus 3 curves of the form $y^3 = f(x)$, where $f(x)$ is a polynomial of degree 4. They are the simplest non-hyperelliptic curves. This talk will discuss recent work with Chris Rasmussen, in which we found all Picard curves defined over the rationals with good reduction at all primes except $p = 3$. This work was inspired by Nigel Smart's enumeration of genus 2 curves with good reduction at all primes except $p = 2$. This work is relevant to the study of modular curves and employs several powerful tools, including Baker's method and the LLL algorithm.

Wednesday, April 8, 2015
2:40–4:00PM

Bryn Mawr College
Department of Mathematics
Park Science Center **328**

Tea and refreshments at 2:20PM in Park 355