Philadelphia Area Number Theory Seminar

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Pencils of quadrics and the arithmetic of hyperelliptic curves

Abstract: In recent joint works with Manjul Bhargava and Benedict Gross, we showed that a positive proportion of hyperelliptic curves over $\mathbb{Q}$ of genus g have no points over any odd degree extension of $\mathbb{Q}$. This is done by computing certain 2-Selmer averages and applying a result of Dokchitser-Dokchitser on the parity of the rank of the 2-Selmer groups in biquadratic twists. In this talk, we will see how arithmetic invariant theory and the geometric theory of pencils of quadrics are used to obtain the 2-Selmer averages.

Wednesday, March 18, 2015
2:40{4:00PM

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