

Philadelphia Area Number Theory Seminar

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A Tale of Two Hypergeometric Properties of Algebraic Varieties

Abstract: In this talk, we investigate the relationship between special functions and arithmetic and analytic properties of algebraic varieties. More specifically, we use Greene's finite field hypergeometric functions to give point count formulas for various families of varieties. And by comparing these formulas for point counts to those for certain period integrals, we shall see that hypergeometric functions truly are the best of tools for describing arithmetic properties of many algebraic varieties. This talk will weave through a tale that begins with Koike's work with Legendre elliptic curves, continues with my own work with Dwork hypersurfaces, and ends with ongoing work on families of higher genus curves.

Wednesday, February 8, 2017
2:40–4PM

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

Tea and refreshments at 2:20PM in Park 355