

Philadelphia Area Number Theory Seminar

Robert Grizzard
Lafayette College

Multiplicative approximation and generalized Lehmer problems

Abstract: We'll recall what the Weil height is, and how it can be viewed as a norm on the multiplicative group. We'll then explain some approximation results in this norm from a recent joint work with J.D. Vaaler. The simplest such result (which has a “2-line” proof*) states that if an algebraic point is “close” to points defined over some field, a power of it is already defined over that field; this can be made effective.

Then we will review the Lehmer conjecture (“roots of irreducible integer polynomials can't all be too close to the unit circle unless they are all on it”) and various generalizations recently put forth by Gaël Rémond, and use our multiplicative approximation results to say some things about these conjectures.

*If you write kind of small.

Wednesday, December 13, 2017
2:40 – 4:00 PM

Bryn Mawr College
Department of Mathematics
Park Science Center **337**

Tea and refreshments at 2:20PM in Park 339