

***ALGEBRAIC GEOMETRY AND COMMUTATIVE
ALGEBRA SEMINAR***

Speaker: Vlad Matei
University of Wisconsin

Date: Wednesday, October 12, 2016

Time: 3:00 PM

Location: 258 Hurley Hall



Lecture Title:

Higher moments of arithmetic functions in short intervals: a geometric perspective

Abstract

In joint work with Daniel Hast, we recast the paper of John Keating and Zeev Rudnick "The variance of the number of prime polynomials in short intervals and in residue classes" by studying the geometry of these short intervals through an associated highly singular variety. We manage to recover their results for a general class of arithmetic functions up to a constant and also obtain information about the higher moments. Recently work of Brad Rodgers in "Arithmetic functions in short intervals and the symmetric group" gives new insight into the geometry of our variety.