

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

Speaker: Eric Riedl
University of Notre Dame



Date: Wednesday, September 18, 2019

Time: 3:00 PM

Location: 258 Hurley Hall

Lecture Title:

Linear subvarieties of hypersurfaces and unirationality

Abstract

The de Jong-Debarre Conjecture predicts that the space of lines on any smooth hypersurface of degree $d \leq n-2$ in P^n has dimension $2n - d - 3$. We prove this conjecture for $n > 2d$, improving on the previously-known exponential bounds. We prove an analogous result for k -planes, and use this generalization to prove that an arbitrary smooth hypersurface is unirational if $n > 2^d$. This is joint work with Roya Beheshti.