

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

**Speaker: Eric Riedl**  
**University of Notre Dame**



**Date:** Thursday, March 4, 2021

**Time:** 3:00 PM

**Location:** Zoom

**Zoom URL:** [notredame.zoom.us/j/97739336655?  
pwd=QmUxd3V2Rndyd0VFNlc0RFBxK0xPQT09](https://notredame.zoom.us/j/97739336655?pwd=QmUxd3V2Rndyd0VFNlc0RFBxK0xPQT09)

**Lecture Title:**

**Linear sections of hypersurfaces and the Lang Conjectures**

**Abstract**

The Lang Conjectures predict that on general hypersurfaces  $X$  in  $P^n$  of degree  $d > n+1$ , there are special subvarieties that contain all the rational curves, entire curves, elliptic curves, and all but finitely many of the rational points. For  $d > (3n+1)/2$ , we identify a candidate subvariety of  $X$  that might satisfy the Lang conjectures. We prove that it contains all rational and elliptic curves, and show that if we assume the Lang Conjecture, this subvariety will contain all entire curves as well. This subvariety is defined in terms of lines meeting the hypersurface set-theoretically in only two points.