

## ***GRADUATE STUDENT SEMINAR***

**Guest Speaker: Matt Weaver**

**University of Notre Dame**

**Date:** Monday, September 11, 2023

**Time:** 5:00 PM

**Location:** 258 Hurley Hall

**Zoom URL:** NA



***Lecture Title:***

**On the equations of Rees algebras of ideals in hypersurface rings**

***Abstract***

The search for the defining equations of Rees algebras is a classical problem within both commutative algebra and algebraic geometry. Geometrically, the Rees ring can be realized as the homogeneous coordinate ring of the blowup of a variety along a subvariety. Algebraically, the Rees algebra records data regarding all powers of an ideal and their various syzygies. In this talk, we will discuss how classical techniques can be updated and how methods from computational algebra can be employed to study the Rees algebra of an ideal in a hypersurface ring. Moreover, we will discuss current projects expanding on these ideas, along with possible directions for future work.