Mathias Lederer and Jenna Rajchgot* (rajchgot@umich.edu). “Doubly universal” Gröbner bases.

A universal Gröbner basis of an ideal in a polynomial ring is a finite set of polynomials which is a (non-reduced, non-minimal) Gröbner basis for every monomial order. In this talk, I’ll explain a way to generalize this notion from ideals in a polynomial ring to an ideal sheaf defining the universal family over a Hilbert scheme, and I’ll explicitly describe the form of such a universal Gröbner basis. I’ll end by discussing an application which should serve as motivation for the construction. (Received February 19, 2013)