1137-14-232   **Kristin DeVleming***, kdev@uw.edu. *Moduli of Hypersurfaces in $\mathbb{P}^3$.*

We will discuss a compactification of the moduli space of degree $d \geq 5$ hypersurfaces in $\mathbb{P}^3$, i.e. a parameter space whose interior points correspond to (equivalence classes of) smooth hypersurfaces in $\mathbb{P}^3$ and whose boundary points correspond to degenerations of such surfaces. Following a trail blazed by numerous others, instead of studying the surfaces D themselves, we study pairs $(\mathbb{P}^3, D)$ satisfying certain properties. Roughly, we require $(X, \alpha D)$ to be a stable pair for α slightly less than 1 and X to be a degeneration of $\mathbb{P}^3$. We will discuss classification of the singular pairs, boundedness, and why these pairs admit a good modular compactification. This work is inspired by ideas of Alexeev, Hacking, Kollár, and Shepherd-Barron. (Received February 05, 2018)