1172-14-137 **Libby Taylor*** (lt691@stanford.edu) and **Ravi Vakil**. *Derived and birational equivalences of the Hilbert scheme of points on a K3.* Preliminary report.

We will explore some derived and birational equivalences of the Hilbert scheme of points on a K3 surface. It is well-known that for any integer $d > 0$, there is a 19-dimensional moduli space of degree $2d$ K3 surfaces. For each K3 surface S of degree $2d$, we will produce a component of the moduli space of semistable sheaves on S which is birational to, and derived equivalent to, the Hilbert scheme of $2d$ points in S. Along the way, we will connect the geometry of the Hilbert scheme to the geometry of the compactified Picard scheme of a family of curves. (Received August 23, 2021)