1172-13-182   **Alessandra Costantini*** (`alecost@okstate.edu`), **Kyle Maddox** and **Lance Edward Miller**.
Rees algebras of weakly F-nilpotent rings. Preliminary report.

When a ring R has positive characteristic, the nature of the singularities of R can be often understood by analyzing the Frobenius structure of the local cohomology modules of R. For instance, a local ring R of dimension d is said to be weakly F-nilpotent if its local cohomology modules $H_{\mathfrak{m}}^i(R)$ are nilpotent with respect to the canonical Frobenius action for $i < d$. Recent work of Kyle Maddox and Lance E. Miller gives sufficient conditions so that weakly F-nilpotent singularities are preserved under various geometric constructions, like gluing, Segre products and Veronese subrings. In this talk, I will present our current understanding of how weakly F-nilpotent singularities behave under blow-ups. This is part of ongoing joint work with Kyle Maddox and Lance E. Miller. (Received August 26, 2021)