1167-13-218   **Zhibek Kadyrsizova**, **Jennifer Kenkel**, **Janet Page*** (`jrpage@umich.edu`), **Jyoti Singh**, **Karen Smith**, **Adela Vraciu** and **Emily Witt**. *Extremal Singularities in Positive Characteristic.*

What is the most singular possible (reduced) hypersurface in positive characteristic? One answer to this question comes from finding a lower bound on an invariant called the F-pure threshold of a polynomial in terms of its degree. In this talk, I'll introduce a new class of hypersurfaces which obtain a minimal F-pure threshold and discuss some of their surprising geometric properties. They are cut out by polynomials that we call Frobenius forms, which have a rich algebraic structure coming from the fact that they have a matrix factorization mirroring the theory of quadratic forms. Further, we fully classify them and show that there are only finitely many of them up to a linear change of coordinates in any bounded degree and number of variables. (Received March 08, 2021)