Jürgen Herzog, Fatemeh Mohammadi and Janet Page* (jrpage@umich.edu). Measuring the non-Gorenstein locus of Hibi rings and normal affine semigroup rings.

Hibi rings are a type of toric rings which are combinatorially defined using finite posets, and as such they provide a natural testing ground for many questions in commutative algebra and algebraic geometry. In this talk, I will introduce Hibi rings and an object called the trace of the canonical module, which measures how close a ring is to being Gorenstein. I will discuss recent results on this trace for Hibi rings and more general toric rings; in particular, we classify when Hibi rings are Gorenstein on the punctured spectrum. (Received July 16, 2019)