1125-13-1198 **Rebecca R.G.*** (rirebhuh@syr.edu). *Using closure operations to study singularities.*

In characteristic $p > 0$, many of the existing results on the singularities of commutative rings were proved using tight closure, a technique developed by Mel Hochster and Craig Huneke. There are also a number of results in equal characteristic 0 that have used reduction to characteristic p to take advantage of tight closure methods. In this talk, I will discuss a generalization of tight closure called a Dietz closure. The simplest Dietz closures come from tensor products with big Cohen-Macaulay modules and algebras. I will present results linking Dietz closures to singularities of commutative rings in various characteristics, and describe their relevance to the homological conjectures. (Received September 15, 2016)