1131-16-265 **Andrew B Conner*** (abc12@stmarys-ca.edu). *Knörrer periodicity for noncommutative matrix factorizations: the odd-degree graded case.* Preliminary report.

In the representation theory of commutative local rings, Knörrer periodicity is a powerful tool for classifying complete Gorenstein local rings of finite Cohen-Macaulay (CM) type. By a theorem of Herzog, all such rings are hypersurface singularities. Knörrer periodicity can be used to prove that a simple hypersurface singularity has finite CM type, and to prove that a hypersurface singularity of finite CM type is a simple (ADE) singularity. These proofs exploit the connection, due to Eisenbud, between maximal Cohen-Macaulay modules over $R/(f)$ for a regular local ring R, and matrix factorizations of f.

More recently, the study of finite CM type for noncommutative graded algebras of has emerged, with Artin-Schelter regular algebras playing the role of regular local rings. With Cassidy, Kirkman, and Moore, the author established a version of Eisenbud's correspondence for rings of the form $A/(f)$ where A is an Artin-Schelter regular algebra and f is normal, regular, homogeneous element; that is, for noncommutative (graded) hypersurfaces. In this talk I will discuss an analog of Knörrer periodicity in the noncommutative graded setting, focusing on the case where the degree of f is odd. (Received July 17, 2017)