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Andrew B. Conner* (abc12@stmarys-ca.edu), **Ellen Kirkman**, **W. Frank Moore** and **Chelsea Walton**. *Noncommutative Knörrer periodicity and quantum Kleinian singularities*.

Chan, Kirkman, Walton, and Zhang recently established a version of the McKay correspondence in characteristic 0 for the action of a semisimple Hopf algebra H acting inner-faithfully with trivial homological determinant on an Artin-Schelter (AS) regular algebra A of dimension 2. The invariant rings A^H for these actions are noncommutative hypersurfaces: they are isomorphic to $C/(\Omega)$ where C is a 3-dimensional AS-regular algebra and Ω is a normal element. The rings A^H were dubbed *quantum Kleinian singularities* and were shown to have finite Cohen-Macaulay (CM) type.

In this talk we use noncommutative matrix factorizations to describe the isomorphism classes of indecomposable maximal Cohen-Macaulay modules for the quantum Kleinian singularities. We then use a noncommutative analog of Knörrer periodicity to prove that $D/(\Omega + z_1^2 + z_2^2 + \cdots + z_d^2)$ has finite CM type where D belongs to a certain class of iterated Ore extensions of C . (Received February 04, 2018)