1131-16-77   **Alexandru Chirvasitu*** (`chirvasitua@gmail.com`), University at Buffalo, Buffalo, NY 14228,
and **Ryo Kanda** and **S. Paul Smith**. *Calabi-Yau non-commutative extensions.*

Superpotential algebras are non-commutative analogues of projective schemes that arise in connection to a diverse array of topics: the representation theory of quivers, mirror symmetry, and so on.

The talk focuses on three-dimensional superpotential algebras that serve as non-commutative versions deformations of two-dimensional smooth stacks. Specifically, we discuss a procedure that leverages such an algebra to produce higher dimensional non-commutative schemes that stack up naturally as flat families over a parameter space.

The technique consists of dropping one of the relations of the initial algebra and replacing it with several one-degree-higher relations, and the result is a family of non-commutative analogues of smooth three-dimensional stacks (e.g. a stacky weighted projective spaces). The process is particularly fruitful when the initial algebra is Calabi-Yau, in which case the resulting family of noncommutative stacks is very rich and consists of what seem to be new examples of four-dimensional Artin-Schelter regular connected graded algebras.

(joint w/ Ryo Kanda and S. Paul Smith) (Received July 04, 2017)