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**Alexandru Chirvasitu\*** (chirvasitua@gmail.com), Department of Mathematics, University at Buffalo, Buffalo, NY , and **S. Paul Smith**. *Cocycle deformations of projective spaces and their quantum symmetries*.

Non-commutative (or quantum) projective spaces are connected graded algebras analogous to polynomial rings in the sense of having the expected Hilbert series and a host of convenient homological properties. As the terminology suggests, they are in many ways analogous to projective spaces; many concepts applicable to the latter, such as points, lines and Grassmannian varieties parametrizing these, transport over to the non-commutative setting.

The talk describes a family of non-commutative projective three-dimensional spaces obtained by mixed deformation process involving both integrating a Poisson structure and performing a cocycle deformation.

One interesting feature will be the fact that the quantum symmetries of these non-commutative projective spaces (i.e. their structures as comodule algebras over certain non-commutative finite-dimensional Hopf algebras) are crucial to the description of their Grassmannians of lines.

(joint w/ S. Paul Smith) (Received July 09, 2017)