

Meeting: 1001, Evanston, Illinois, SS 19A, Special Session on Algebraic Representations and Deformations

1001-16-169 **Georgia Benkart** and **Sarah Witherspoon*** (sjw@math.tamu.edu). *Quantum group actions, R-matrices and deformations of algebras*. Preliminary report.

An algebra admitting an action of a bialgebra may be deformed by a twisting element or more formally by a universal deformation formula over the bialgebra. The general study of such deformation formulas was begun by Giaquinto and Zhang in 1998. These formulas promise to be very useful in investigating deformations of algebras. In this talk we will illustrate these ideas with (1) examples of deformation formulas arising from R-matrices of restricted quantum groups and related formulas, and (2) examples of algebras on which these quantum groups act, thereby inducing deformation, such as crossed products of polynomial algebras with groups, down-up algebras, and generalizations. (Received August 24, 2004)