Chad R Mangum* (cmangum2@ncsu.edu). *Twisted Toroidal Lie Algebras.*

This talk will discuss twisted toroidal Lie algebras, which are universal central extensions of twisted multi-loop algebras. This loop realization generalizes twisted affine Kac-Moody algebras (by adding more variables to the Laurent polynomials). The focus of this talk will be on the 2-toroidal case (that is, two variables) with a view toward both a different realization than the loop realization (the so-called Drinfel’d realization), as well as toward representations based on Feingold and Frenkel’s representation of affine algebras as quadratic operators. Background and previous results inspiring the current talk (a specific realization in the nontwisted toroidal case, and a representation in the twisted affine and nontwisted toroidal cases) will be discussed as motivation to the extent time allows. This is joint work with Dr. Kailash Misra and Dr. Naihuan Jing. (Received September 17, 2013)