

**Chelsea Walton**

M.I.T.

will speak on

**Noncommutative Invariant Theory**

ABSTRACT: Invariant Theory is a beautiful field. The area dates back over 100 years to the work of Hilbert, Klein, Gauss, and many others. It is a very active area of research today, particularly from the viewpoint of algebraic geometry and combinatorics. It also has far reaching applications in representation theory, coding theory, mathematical modeling, and even air target recognition. (I just happened to run across this last application on google and it will \*not\* be explained.)

In this talk, I hope to illustrate the beauty of Noncommutative Invariant Theory. All basic notions will be defined. To say, I will explain the noncommutative analogues of each of the following terms: "groups", "acting on", "polynomial rings". I will also provide an overview of recent work pertaining to quantum group actions on (noncommutative) regular algebras. The results discussed here are from joint works with Kenneth Chan, Pavel Etingof, Ellen Kirkman, Yanhua Wang, and James Zhang: see arXiv:math/1210.6432, 1211.6513, 1301.4161, 1303.7203.

WEDNESDAY, JANUARY 29, 2014

LECTURE AT 1:30 PM

COFFEE, TEA, AND REFRESHMENTS FROM 1:15 PM

ROOM 617, WACHMAN HALL

DEPARTMENT OF MATHEMATICS