

TEMPLE UNIVERSITY MATHEMATICS COLLOQUIUM

James Zhang

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will speak on

Hopf algebra, cohomology and noncommutative algebraic geometry

ABSTRACT: Hopf algebras have been used in many areas such as topology, combinatorics, algebra and so on, and have been studied extensively during the last twenty-five years partly due to the introduction of quantum groups. Cohomology is a powerful tool in research of Hopf algebras. New invariants defined by cohomology theories help us to classify noetherian prime Hopf algebras of low Gelfand-Kirillov dimension. In particular, the pointed cohomology ring of a Hopf algebra services as a bridge between the representations of a Hopf algebra and the associated noncommutative projective scheme. This bridge plays an essential role in understanding the structure of Hopf algebras by studying noncommutative algebraic geometry. I will report some recent work of Brown, Goodearl, Wang and Zhuang.

MONDAY, 22 MARCH 2010

LECTURE AT 4:00 PM

COFFEE, TEA, AND REFRESHMENTS FROM 3-5 PM

ROOM 617, WACHMAN BUILDING

DEPARTMENT OF MATHEMATICS