



PURDUE UNIVERSITY

Department of Mathematics Colloquium

Speaker: Professor Assi, Penn State University

Title: "The Embedding Conjecture for Quasi-ordinary Polynomials"

Date: Tuesday, November 2, 2010

Time: 4:30 P.M.

Place: MATH 175

Abstract

Let \mathbf{K} be an algebraically closed field of characteristic zero and let f be a nonzero polynomial of $\mathbf{K}[x_1, \dots, x_n][y]$. We say that f is a variable if the hypersurface $V(f)$ is isomorphic to a hyperplane of \mathbf{K}^{n+1} . If $n = 1$, by the Abhyankar-Moh theory, a variable of \mathbf{K}^2 is a coordinate (i.e. there exists an automorphism σ of \mathbf{K}^2 such that $f \circ \sigma$ is a coordinate of \mathbf{K}^2). The embedding conjecture -posed by Abhyankar and Sathaye- asks whether a variable is a coordinate of \mathbf{K}^{n+1} for $n \geq 2$. Despite a lot of activities in this direction, this conjecture is still open. In this talk we shall prove this conjecture when f is a quasi-ordinary polynomial, i.e. when the equation $f(\underline{x}, y) = 0$ has "good" Puiseux solutions $y = y(\underline{x})$ at infinity.

Refreshments will be served in the Math Library Lounge at 4:00 p.m.