

Universidad Complutense de Madrid

Facultad de Ciencias Matemáticas

Departamento de Álgebra

Teléfono: 91 394 45 70, Fax: 91 394 46 62

Correo electrónico: Algebra@mat.ucm.es

SEMINARIO DE GEOMETRÍA ALGEBRAICA

Jueves 11 de enero de 2006, 13:00, Seminario 238

Bangere P. Purnaprajna

“University of Kansas”

Impartirá la conferencia:

Syzygies and geometry

Summary. Equations defining algebraic varieties have been of interest to algebraic geometers. In recent decades the classical results on projective normality and normal generation have been generalized to higher syzygies. The theme of interest is to study the failure of the linearity of the minimal free resolution of the homogeneous coordinate ring and relate it to some geometric invariants. There have been some progress for curves in this regard. But for higher dimensional varieties the relation is even less understood. In this talk I will explore this relation for embeddings of surfaces of general type associated to adjunction bundles by proving results on higher syzygies. To mention a few corollaries: we recover and improve classical results of Bombieri and Ciliberto for pluricanonical line bundles, prove "generic" Mukai conjecture for adjunction bundles associated to base point free and ample line and prove analogue of effective Matsusaka type results for higher syzygies.