

WICHITA STATE UNIVERSITY  
Department of Mathematics and Statistics

*The Lecture Series in the  
Mathematical Sciences Presents Our Guest:*

**Dr. Sean Paul**

Columbia University, New York

*“Canonical metrics K-Stability of algebraic manifolds:  
An overview of recent results and open problems.”*

Abstract:

One of the central problems in kahler geometry is to find necessary and sufficient conditions for the existence of "canonical" metrics in a given kahler class. Thanks to Yau (and Aubin) , this has been solved for the first chern class, provided it is either negative or zero. Naturally, Much effort has been directed towards the case when the first chern class is positive. The general belief (primarily through the work of G.Tian) is that the existence of a K.E. metric (or more generally, a constant scalar curvature metric in the first chern class of some polarisation) is equivalent to they "stability" of the algebraic manifold. This should be viewed as the fully nonlinear version of the Kobayashi Hitchin correspondence. I will give an account of progress on this problem, and discuss recent joint work with G.Tian.

**Friday, September 3, 2004  
3:00 PM in 372 Jabara Hall**

*Please come join us for refreshments before the lecture  
at 2:30 p.m. in room 353 Jabara Hall.*