

# Statistics Seminar

**Topic:** Hierarchical Bayesian Neural Networks:  
An Application to Prostate Cancer Study

**Speaker:** Prof. Malay Ghosh\*  
University of Florida

**Abstract:**

Prostate cancer is one of the most common cancers in American men. Management depends on the staging of prostate cancer. Only cancers that are confined to organs of origin are potentially curable. The paper considers a hierarchical Bayesian neural network approach for posterior prediction probabilities of certain features indicative of non-organ confined prostate cancer. The Bayesian procedure is implemented by an application of the Markov Chain Monte Carlo numerical integration technique. For the problem at hand, the hierarchical Bayesian neural network approach is shown to be superior to the one based on hierarchical Bayesian logistic regression model as well as the classical feed forward neural networks.

**Date: Friday, March 26th, 2004**

**Time: 4 PM**

**Location: Hume 331**

**ALL ARE WELCOME.**

Tea and snacks will be served at 3.45 PM in the faculty lounge.

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\* Prof. Ghosh is the Editor, Sequential Analysis (1996-to date), Co-Editor: Sankhya (2000- ), and Associate Editor: American Statistician (2000- ). He has written several books and has made significant contribution in the small area estimation and Bayesian statistics.