



**PURDUE UNIVERSITY**

**Joint Prem S. Puri Memorial Lecture and Mathematics Colloquium**

Speaker: Professor S.R.S. Varadhan, Courant Institute  
Title: "Some Unusual Large Deviation Results"  
Date: Thursday, April 30, 2009  
Time: 4:30 P.M.  
Place: MATH 175

**Abstract**

We investigate the behavior of

$$\lim_{n \rightarrow \infty} \frac{1}{n} \log E \left[ \exp \left( \sum_{i=1}^n a_i V(x_i) \right) \right]$$

where  $\{a_i\}$  are constants and  $\{x_i\}$  is a nicely mixing Markov process. We examine what the limit is and how to identify it. We will also exhibit some unusual applications.

**Refreshments will be served in HAAS 111, 4:00 P.M.**