

## STANFORD PROBABILITY SEMINAR

Milena Mihail, Georgia Tech

**Monday, 17 October 2005**

**4:15pm** (Refreshments at 4pm in the 1st Floor Lounge)

Sequoia Hall, Room 200

### **Performance and scaling in complex networks: A spectral approach**

**Abstract.** The issue of performance scalability is of fundamental importance in complex communications networks. How does congestion scale on the Internet? At what rate do crawlers discover new web pages? Spectral graph theory is a powerful mathematical tool that helps characterize the performance of many algorithms when run on a particular graph. We use spectral graph theory to answer the above questions in several families of random graphs that model the Internet and the WWW.