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**Seminar**

**Speaker:** David Blei, Princeton University  
**Title:** Supervised and relational topic models  
**Date:** Wednesday March 11, 2009  
**Time:** 3:20 PM  
**Place:** 552 Hill Center

**Abstract**

A surge of recent research in machine learning and statistics has developed new techniques for finding patterns of words in document collections using hierarchical probabilistic models. These models are called "topic models" because the discovered word patterns often reflect the underlying topics that permeate the documents; however topic models also naturally apply to data such as images and biological sequences. In this talk I will review the basics of topic modeling, and discuss some recent extensions: supervised topic modeling and relational topic modeling. Supervised topic models allow us to use topics in a setting where we seek both exploratory and predictive power. Relational topic models---which are built on supervised topic models---considers documents interconnected in a graph. This model can be used to summarize a network of documents, predict links between them, and predict words within them.

Joint work with Jonathan Chang and Jon McAuliffe.