



The Math/Stats Colloquium
Department of Mathematics and Statistics
San José State University



Abel Rodriguez

UC Santa Cruz

Statistical Analysis of Complex Networks

OCTOBER 29, 2014, MH320

Abstract: Complex networks arise in a number of research areas including biology, psychology and political science. Real-life networks exhibit properties not captured well by simple random graphs, like transitivity (the tendency of actors with a common link to a third actor to also be linked), homophily by attributes (the tendency for actors that share common attributes to be linked), and reflexivity (the tendency of actors to reciprocate). This talk will discuss a particular class of statistical models for networks called stochastic blockmodels, and how they can be implemented in a Bayesian setting. These models incorporate transitivity and reflexivity by attempting to find latent communities within the network, and therefore generalize the ideas behind model-based clustering to array-valued data. These models are illustrated using examples from finance, political sciences, and biology.

Background: One course in statistics/probability.

About the speaker: Abel Rodriguez is an Associate Professor of Applied Mathematics and Statistics at the University of California, Santa Cruz. His research interests center around Bayesian statistical methods and their application in finance, genomics and social sciences.

SNACKS IN MH331B AT 2:30 PM

TALKS START AT 3 PM

For more information, see our full schedule at:

<http://www.math.sjsu.edu/~hsu/colloq/>