

**DEPARTMENT OF STATISTICS AND BIOSTATISTICS  
CENTER FOR INTEGRATIVE PROTEOMICS RESEARCH**



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*A Bayesian framework for joint estimation of  
multiple networks*

**December 5, 2015**

**3:20 – 4:20pm**

Light refreshments will be served

**110 Frelinghuysen Road  
Hill Center, Room 552**

**Abstract:** A novel Bayesian approach is developed for joint estimation of multiple graphical models from a dictionary of possible/suggested ones. The problem is motivated by applications in the analysis of Omics data obtained from different biological conditions and/or disease subtypes. We introduce a novel prior distribution suitable for the task and couple it with a pseudo-likelihood based approach which provides robustness and computational efficiency. We establish strong posterior consistency and illustrate the efficacy of the proposed approach on both synthetic and data sets from different cohorts of patients suffering from Chronic Kidney Disease.

**Bio:** Dr. George Michailidis has a PhD in Mathematics from The University of California at Los Angeles, and a BS in Economics from University of Athens, Greece. He is currently Professor of Statistics, Computer and Information Services; and Director of Institute of Bioinformatics at The University of Florida. His research interests include: modeling and analysis of high-dimensional data, modeling and analysis of networks with applications to finance, biology and engineering, bioinformatics with emphasis in integration of diverse Omics data, stochastic control with emphasis on routing and scheduling problems for computer, communications and electrical power networks, change-point analysis and long-range dependence and heavy-tails with applications to network traffic.

