

Ben Fitzpatrick

LOYOLA MARYMOUNT UNIVERSITY

e-mail: bfitzpatrick@lmu.edu

Modeling and Estimation of Gene Regulatory Networks and Environmental Stress Response

This talk investigates the dynamics of gene regulatory networks governing cold shock response in budding yeast, *Saccharomyces cerevisiae*, through the use of a differential equation model. The inverse problem of determining model parameters from observed data is our primary interest. We fit the differential equation model to microarray data from a cold shock experiment using a Bayesian maximum likelihood approach, and we discuss future efforts involving gene deletion experiments and related modeling problems.