



NSF-Duke-NCSU-UNC

Joint MUMS Program Transition - SPUQ Workshop

May 14-17, 2019

SPEAKER/ABSTRACT

Dongchu Sun, University of Missouri

“Bayesian Model Selection for a Linear Model with Grouped Covariates”

Abstract:

Model selection for normal linear regression models with grouped covariates is considered under a class of Zellner's (1986) g-priors. The marginal likelihood function is derived under the proposed priors, and a simple closed form expression is given assuming the commutativity of the projection matrices from the design matrices. As illustration, the marginal likelihood functions of the balanced m-way ANOVA models, either solely with main effects or with all interaction effects, are calculated using the closed form expression. The performance of the proposed priors in model comparison problems is demonstrated by simulation studies on two way ANOVA models and by two real data studies.