

The College of Arts & Sciences
Department of Mathematical Sciences

Colloquium

Professor Malay Ghosh

University of Florida

Thursday, April 10th, 2025

French Hall Room 4221

4:00-5:00pm

High Dimensional Posterior Consistency for Estimating the Error Covariance Matrix

The Inverse-Wishart (IW) distribution is a standard and popular choice of priors for covariance matrices. This prior has attractive properties such as conditional conjugacy. However, the IW family of priors has some crucial drawbacks which will be discussed. Several classes of priors for the covariance matrix that alleviate these drawbacks, while preserving computational tractability, have been proposed in the literature. These priors can be obtained through appropriate scale mixtures of IW priors. However, high-dimensional posterior consistency of models which incorporate such priors has not been investigated. I will address this issue in the multi-response regression setting in a unified way. I will also illustrate situations when posterior consistency fails.

**Refreshments will be served 3:15– 3:45 pm in the Faculty Lounge
4118 French Hall West**