
Registration Seminar

Seminar Title	: Inference on the ratio of scale parameters for two shifted exponential populations under a common location setup
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Venue	: Seminar Room, Department of Mathematics
Date and Time	: 22 Sep 2025 (4.30 PM)
Abstract	: Inference on a function of parameters has drawn the attention of several researchers in the past, due to their real-world applications. This study addresses the problems of interval estimation and hypothesis testing on the ratio of two scale parameters for the exponential model under the common location setup. The various interval estimators, such as asymptotic confidence intervals, bootstrap intervals, intervals based on the method of variance estimation, intervals based on the Bayesian approach, and finally the generalized confidence intervals, are proposed. Next, various test procedures, namely, the parametric bootstrap likelihood ratio test, computational approach test, and the generalized tests using the generalized p-value approach, have been proposed. The interval estimators are evaluated using the coverage probability and average length, whereas the test procedures are compared using the size and power values through numerical simulation. In light of our simulation findings, we provide a few suggestions for utilizing the proposed test methods and intervals. Finally, we consider a real-life example to show the potential application of the proposed model.