KINGDOOM OF SAUDI ARABIA Imam Muhammad Ibn Saud **Islamic University Faculty of Sciences Department of Mathematics & Statistics**



المملكة العربية السعودية جامعة الإمام محمد بن سعود الإسلامية كلية العلوم قسم الرياضيات والإحصاء

Weekly Seminar September 2024 Program

On Wednesdays, 8.00 - 8.30 AM (In person Talks) **Room 2-079B**

DATE	SPEAKER	TALK'S TITLE
18.09.2024	Ahmad Salah	Bayesian and Non-Bayesian Inference
		for Some Inverted Lifetime Distributions
		under Progressive Censoring Schemes
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ABSTRACT

In this research, the problem of estimation for generalized inverted exponential distribution have been studied under progressive Type-I censoring from Bayesian and non-Bayesian viewpoints. Maximum likelihood estimates and associated asymptotic confidence interval and bootstrap confidence interval have been derived for the unknown parameters of the generalized inverted exponential distribution. Based on Markov Chain Monte-Carlo, Bayes estimates have been calculated using Metropolis-Hasting algorithm and the corresponding highest posterior density credible interval estimates under non-informative and informative priors considering squared error loss function. Also, a discussion of how to select the values of hyper-parameters is taken into consideration based on past samples when informative prior is proposed. Also, the problem of competing risks model has been studied for generalized inverted exponential distribution under progressive Type-I censoring. Maximum likelihood estimates and associated asymptotic confidence interval and bootstrap confidence interval estimates have been derived for the unknown parameters of the generalized inverted exponential distribution under the assumption of two independent causes of failure and different progressive Type-I censoring schemes. Bayes estimates and associated highest posterior density credible interval estimates have been considered.