Research (StaR) Colloquium

Seminar

Dept of Mathematics and Statistics
King Fahd University of Petroleum and Minerals

Presenter	**Dr. Anwar H. Joarder** **Dept of Mathematics and Statistics** **KFUPM**
Title	**Sample Variance: Some Mathematical Characterizations**
Topic & (Level)	Descriptive Statistics & Inequalities **(Interpretation, Methodology)**
Audience	All KFUPM community are cordially Invited (including undergraduate students)
Date	Sunday, Dec 28, 2008
Time	1:00 PM – 1:50 PM
Location	Building 5, Smart Classroom # 203

Abstract

In this talk we will represent sample variance by the first order differences of sample observations via a matrix which is constant for any sample of a particular size. Some upper and lower bounds for sample standard deviation will be proved in terms of sample mean, median, range, the smallest and the largest order statistics. Upper bounds for variance will also be derived for odd and even sample sizes whenever the sample observations are of the same sign. They will be used to find bounds for some well-known sample statistics: z-scores, coefficient of variation, coefficient of skewness and the least squares estimator of the slope parameter in the context of a simple linear regression. Statistical inference of related parameters can be improved on the basis of these fixed sample properties.

Tea and Coffee will be served