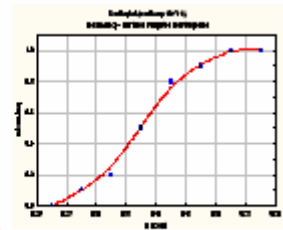


Statistics



Research (StaR) Colloquium

Seminar

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

<i>Presenter</i>	<p>Professor Hassen A. Muttalak Dept of Mathematics and Statistics KFUPM</p>
<i>Title</i>	<p>Stein-Type Estimation using Ranked Set Sampling</p>
<i>Topic & (Level)</i>	<p>Estimation & Sampling (Methodology)</p>
<i>Audience</i>	<p>All KFUPM community are cordially Invited (including graduate students)</p>
<i>Date</i>	<p>Sunday, Mar 14, 2010</p>
<i>Time</i>	<p>12:20 PM - 1:30 PM</p>
<i>Location</i>	<p>Building 5, Smart Classroom # 102</p>

Abstract

In this study we consider the application of James-Stein (J-S) estimate for population means from a class of arbitrary populations based on k ranked set samples (RSS). We consider a basis for optimally combining sample information from several data sources. We succinctly develop the asymptotic theory of simultaneous estimation of several means for differing replications based on well-defined shrinkage principle. We showcase that a shrinkage-type estimator will have, under quadratic loss, a substantial risk reduction relative to the classical estimator based on simple random sample (SRS) and RSS. Asymptotic distributional quadratic biases and risks of the shrinkage estimators are derived and compared with the classical estimator. A simulation study is used to support the asymptotic result. An over-riding theme of this study is that the shrinkage estimation method provides a powerful extension of its traditional counterpart for non-normal populations. Finally we will use a real data set to illustrate the computation of the new proposed estimators.

Tea and Coffee will be served

