

UNIVERSITY OF SYDNEY

SCHOOL OF MATHEMATICS AND STATISTICS

Statistics Seminar Series - 2002

Friday March 22, 2.00pm., Carslaw Lecture Room 273 (Level 2)

## **Generalized Exponential Distributions**

**Professor Rameshwar Gupta**  
**Department of Math., Stats and Comp. Sci.**  
**University of New Brunswick**

### **Abstract**

The gamma and Weibull distributions are commonly used for analyzing any lifetime data or skewed data. Recently a new family of generalized exponential (GE) distributions was introduced and studied quite extensively by Gupta and Kundu in series of papers. In this talk we show that many properties of this new family are quite similar to those of a gamma family. Since the GE distribution function has a nice compact form, the generation of GE random deviates as well as inference procedures are relatively easy. We show that if the shape parameter of a gamma distribution is not very large then the gamma distribution can be approximated very well by a GE distribution. We observe that for all practical purposes it is possible to generate approximate gamma random numbers using generalized exponential distribution and the random samples thus obtained can not be differentiated using any statistical tests. Moreover, if there is a skewed data set where gamma distribution fits very well, the generalized exponential distribution also can be used and it is very difficult to differentiate between two fitted distribution functions.

S. Peiris, 93515764

Please visit :

<http://www.maths.usyd.edu.au:8000/u/shelton/stat-seminar/>

for more details about Sydney University Statistics Seminar Series (including the site map and past/future seminars).