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Florence George* (fgeorge@fiu.edu), Florida International University, Department of Statistics, 11200 S.W.8th Street, Miami, FL 33199, and **Ramachandran M. Kandethody** (ram@cas.usf.edu), Department of Mathematics & Statistics, University of South Florida, 4202 E. Fowler Ave, Tampa, FL 33620. *Analysis of Gene Expression Data using Johnson's system of distributions.*

A major goal of microarray experiments is to determine which genes are differentially expressed between samples. While simultaneous measurement of thousands of gene expression levels provides a potential source of profound knowledge, success of the microarray technology depends heavily on statistical analysis. Recently, statisticians have focused much attention on the development of statistical methods to identify differentially expressed genes, with special emphasis on those methods that identify genes that are differentially expressed between two conditions. This work focusses on the development of a statistical method that is suitable for differential gene selection using Johnson system of distributions. (Received September 18, 2007)