

Shyamal D. Peddada
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National Institute of Environmental Health Sciences
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Education

BSc.(HONS MATH)	1977	University of Delhi, Delhi, INDIA
MSc	1980	Indian Agricultural Research Institute, New Delhi, INDIA
MA	1981	University of Pittsburgh, Pittsburgh, PA
PhD	1983	University of Pittsburgh, Pittsburgh, PA

[Dissertation advisor: Professor C. R. Rao]

Brief Chronology of Employment

1983 -- 1986: Assistant Professor, Department of Mathematics, Central Michigan University, MI

1986 -- 1989: Assistant Professor, Department of Mathematics & Statistics, University of Nebraska, NE

1989 -- 1993: Assistant Professor, Department of Statistics, University of Virginia, VA.

1993 -- 1999: Associate Professor [Tenured], Department of Statistics, University of Virginia, VA.

1999 -- 2004: Full Professor [Tenured], Department of Statistics, University of Virginia, VA.

2000 -- present: Biostatistics Branch, National Institute of Environmental Health Sciences (NIEHS/NIH), Research Triangle Park, NC.
[Tenured Senior Investigator]

Adjunct Appointment

2004 – present: Adjunct Professor of Biostatistics, Department of Biostatistics, University of North Carolina, Chapel Hill, NC.

Research and Professional Interests

Linear, Nonlinear & Generalized Regression models, Ordinal Data Analysis, Order Restricted Inference (with applications to microarray gene expression data and toxicology), Statistical Consulting.

Professional Memberships

American Statistical Association.
International Biometric Society (ENAR).

Institute of Mathematical Statistics.
International Statistical Institute.

Awards/Honors/Fellowships/Grants

- **Elected Member of the International Statistical Institute, 2006.**
- **Elected Fellow of the American Statistical Association, 2005.**

“For broadening the scope of applications in statistics through excellence in consulting and innovative methodological research in order restricted inference, tracking of Arctic sea ice and gene expression microarrays.”

- **American Statistical Association’s Outstanding Statistical Application Award, 1997.**

“For representing excellent statistical work applied to two important natural phenomena, namely, problems of interest to polar scientists investigating the motion of the ice pack in the north pole, and questions encountered by geoscientists studying the motion of tectonic plates.”

- **Nominated for the Excellence in Teaching Award, Central Michigan University, 1985.**
- **Indian Agricultural Statistics Research Institute, Junior Research Fellow, 1977-1979.**

Statistical Consulting and Related Activities

- Department of Statistics, University of Virginia (1992-2000).
 - Directed the statistical consulting service and taught courses on statistical consulting during various semesters.
- National Institute of Environmental Health Sciences (2000-present).
 - Statistical consulting service (2000-present).
 - Director of the statistical consulting service (2004 – present).
- Member of the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) Endocrine Disruptor Peer Review Panel, 2002.
- Statistical consultant on a “Rat uterotrophic assay” conducted by the Organization for Economic Cooperation and Development (OECD), Paris, France, 2000-2002.

Statistical Software

Order Restricted Inference for Ordered Gene Expression (ORIOGEN) for analyzing gene expression data.

Journal Articles

1. **Peddada SD** (1985). A Short Note on the Pitman Measure of Nearness. **American Statist.**, **39**, 298--299.
2. **Peddada SD** and Khattree R. (1986). On Pitman Nearness and Variance of Estimators. **Comm. Statist.**, **15**, 3005--3017.
3. **Peddada SD** (1986). A Note on Quadratic Subspaces. **Utilitas Math.**, **29**, 87--92.
4. Khattree R and **Peddada SD** (1987). A Short Note on Pitman Nearness for Elliptically Symmetric Estimators. **J. of Statist. Planning and Inference**, **16**, 257--260.
5. Lee C and **Peddada SD** (1987). Comparison of Some Ratio Estimators Using the Pitman Nearness Criterion. **Comm. Statist.**, **16**, 2017--2027.
6. **Peddada SD** and Lahiri P. (1988). Exact Mean Squared Error of Stein-Rule Estimator in Linear Models. **J. of Statist. Planning and Inference**, **18**, 345--353.
7. **Peddada SD** (1989). Two Non-Negative Estimators for the Model with a Common Mean. **Comm. Statist.**, **18**, 501-512.
8. **Peddada SD**, Nigam A and Saxena A. (1990). On the Inadmissibility of Ridge Estimator in a Linear Model. **Comm. Statist.**, **18**, 3571-3585.
9. **Peddada SD** and Richards D. (1991). Proof of a Conjecture of M. L. Eaton on the Characteristic Function of the Wishart Distribution. **Annals of Probability**, **19**, 868-874.
10. **Peddada SD** and Khattree R. (1991). Comparison of the Estimators of the Location Using Pitman's Criterion of Comparison. **Comm. in Statist.**, **20**, 3525-3534.
11. **Peddada SD** and Saxena KML. (1991). Minimum Norm Constrained Estimation in Randomized Response Surveys. **Sankhya, Ser. B**, **53**, 327-339.
12. **Peddada SD** and Richards D. (1991). Entropy Inequalities for Some Multivariate Distributions. **J. Multivariate Anal.**, **39**, 202-208.
13. **Peddada SD**, Patwardhan G. (1992). Jackknife Variance Estimation in Linear Models. **Biometrika**, **79**, 654-657.

14. **Peddada SD**, Patwardhan G. (1992). Qualms About the BCa Confidence Intervals. **Statist. Probab. Letters**, **15**, 77-83.
15. Lahiri P and **Peddada SD** (1992). Bayes and Empirical Bayes Estimation of the Finite Population Mean Using Auxiliary Information. **Statistics and Decisions**, **10**, 67-80.
16. Kirmani S and **Peddada SD** (1993). Stochastic Ordering Approach to Off-line Quality Control Data. **J. Royal Statist. Society, Ser. C – Applied Statist.**, **42**, 271-281.
17. **Peddada SD** (1993). Discussion of “Is Pitman Closeness a Reasonable Criterion?” **J. Amer. Statist. Assoc.**, **88**, 67-69.
18. Siström C, Southall E, **Peddada SD**, Shaffer HA. (1993). Factors affecting the Thickness of the Cervical Prevertebral Soft Tissues. **Skeletal Radiology**, **22**, 167-171.
19. Hwang JTG and **Peddada SD** (1993). Confidence interval estimation under some restrictions on the parameters with non-linear boundaries. **Statist. Probab. Letters**, **18**, 397-403.
20. Hwang JTG and **Peddada SD** (1994). Confidence Interval Estimation Subject to Order Restrictions. **Annals of Statistics**, **22**, 67-93.
21. **Peddada SD** and McDevitt RJ (1996). Least Average Residual Algorithm (LARA) to Track the Motion of Arctic Sea Ice. **IEEE Transactions on Geoscience and Remote Sensing**, **34**, 915-926.
22. **Peddada SD** and Chang TC (1996). Bootstrap Confidence Region Estimation of the Motion of Rigid Bodies. **J. of Amer. Statist. Assoc.**, **81**, 231-241.
23. Roemmich J, Blizzard R, **Peddada SD**, Malina R, Roche A, Tanner J and Rogol A. (1997). A Longitudinal Assessment of Hormonal and Physical Alterations During Normal Puberty in Boys IV: Prediction of Adult Height from Bone Age: Comparison of the Bayley-Pinneau, Roche-Wainer-Thissen and Tanner Methods. **Amer. J. of Human Biology**, **9**, 371-380.
24. **Peddada SD** (1997). Confidence Interval Estimation of Population Means Subject to Order Restrictions Using Resampling Procedures. **Statist. Probab. Letters**, **31**, 255-265.
25. **Peddada SD** and Smith T. (1997). Consistency of a Class of Variance Estimators in Linear Models under Heteroscedasticity. **Sankhya, Ser. B**, **59**, 1 - 10.
26. Smith T and **Peddada SD** (1998). Analysis of Linear Models under Heteroscedasticity. **Statist. Probab. Letters**, **37**, 399-408.
27. McDevitt RJ and **Peddada SD** (1998). An Automated Algorithm for Cleaning and Ordering the Boundary Points of a One-Dimensional Curve in a Segmented Image. **IEEE Transactions on Geoscience and Remote Sensing**, **36**, 307-312.

28. Clark P, Clarke W, **Peddada SD**, Reiss A, Langlois C, Nieves-Rivera F and Rogol A. (1998). The Effects of Pubertal Status and Glycemic Control on the Growth Hormone - IGF-1 Axis in Boys With Insulin-Dependent Diabetes. **J. Pediatr. Endocrinol. Metab.**, **11**, 427-435.
29. Zhang J, **Peddada SD**, Malina R and Rogol A. (2000). A Longitudinal Assessment of Hormonal and Physical Alterations During Normal Puberty in Boys VI. Modeling of Growth Velocity, Mean Growth Hormone (GH Mean) and Serum Testosterone (T). **Amer. J. of Human Biology**, **12**, 814-824.
30. Garren S and **Peddada SD** (2000). Analysis of Multivariate Linear Regression Models Under Repeated Measurements with Missing Data. **Statist. Probab. Letters**, **48**, 293-302.
31. Hoferkamp C and **Peddada SD** (2001). Test of Homogeneity of Variances Against Ordered Alternatives in Fixed Effects Linear Models. **Sankhya, Ser. B** , **63**, 311-320.
32. **Peddada SD**, Prescott K and Conaway M. (2001). Tests for Order Restrictions in Binary Data. **Biometrics**, **57**, 1219-1227.
33. Tan X and **Peddada SD** (2001). Asymptotic Distribution of Some Estimators for Parameters Subject to Order Restrictions. **Statistics and Applications**, **2**, 7-25.
34. Dunbar S, Conaway M and **Peddada SD** (2001). On improved estimation of parameters subject to order restrictions. **Statistics and Applications**, **3**, 121-128.
35. Gottschling BC, Maronpot RR, Hailey JR, **Peddada SD**, Moomaw CR, Klaunig JE and Nyska, A. (2001). Role of Oxidative Stress in Indium Phosphide-induced Lung Carcinogenesis in Rats. **Toxicological Sciences**, **64**, 28-40.
36. Kanno J, Onyon, L, **Peddada SD**, Ashby J, Jacob E and Owens, W. (2002). The OECD program to validate the rat uterotrophic bioassay: Phase Two - Coded Single Dose Studies. **Environmental Health Perspectives**, **111**, 1550-1558.
37. Kanno, J, Onyon, L, **Peddada SD**, Ashby, J, Jacob, E and Owens, W. (2002). The OECD program to validate the uterotrophic bioassay: Phase Two - Dose Response Studies. **Environmental Health Perspectives**, **111**, 1530-1549.
38. Nyska A, Moomaw C, Foley J, Maronpot R, Malarkey D, Cummings C, **Peddada SD**, Travlos G and Chan P. (2002). The Hepatic Endothelial Carcinogen Riddelliine Induces Endothelial Apoptosis, Mitosis, S phase, p53 and Hepatocytic Vascular Endothelial Growth Factor Expression After Short-term Exposure. **Toxicology and Applied Pharmacology**, **184**, 153-164.
39. Ezov N, Levin-Harus T, Mittelman M, Redlich, M Shabat, S, Ward S, **Peddada SD**, Nyska M, Yedgar S and Nyska A. (2002). Chemically induced rat model of hemolysis with disseminated thrombosis. **Cardiovascular Toxicology**, **2**, 181-194.

40. **Peddada SD** and Hwang JTG. (2002). Classification of pixels in a noisy greyscale image of polar ice. **IEEE Transactions On Geoscience and Remote Sensing**, **40**, 1879-1884.
41. Hoferkamp C and **Peddada SD** (2002). Estimation of parameters in linear models with heteroscedastic variances subject to order restrictions. **J. Multivariate Analysis**, **82**, 65-87.
42. **Peddada SD**, Lobenhofer L, Li L, Afshari C, Weinberg C and Umbach D. (2003). Gene selection and clustering for time-course and dose-response microarray experiments using order-restricted inference. **Bioinformatics**, **19**, 834-841.
43. Chan P, Mahler J, **Peddada SD**, Lomnitski L and Nyska A. (2003). Forestomach tumor induction by 2,4-hexadienal in F344/N rats and B6C3F1 mice. **Archives of Toxicology**, **77**, 511-520.
44. Jarosinska D, **Peddada SD** and Rogan W. (2004). Assessment of lead exposure and associated risk factors in urban children in Silesia, Poland. **Environmental Research**, **95**, 133-142.
45. Conaway M, Dunbar S and **Peddada SD** (2004). Designs for single or multiple agent phase I trials. **Biometrics**, **60**, 661-669.
46. Liu D, Umbach D, **Peddada SD**, Li L, Crockett P and Weinberg C. (2004). A Random-Periods Model for Expression of Cell-Cycle Genes. **Proceedings of National Academy of Sciences**, **101**, No. 19, 7240-7245.
47. Liu D, Weinberg C and **Peddada SD** (2004). A geometric approach to determine association and coherence of the activation times of cell-cycling genes under different experimental conditions. **Bioinformatics**, **20**, 2521-2528.
48. Shabat S, Nyska A, Long P, Goelman G, Abramovitch R, Ezov N, Levin-Harus T, **Peddada SD**, Redlich M, Yedgar S, Nyska M. (2004). Osteonecrosis in a chemically induced rat model of human hemolytic disorders associated with thrombosis - A new model for avascular necrosis of bone. **Calcified Tissue International**, **74**, 220-228.
49. Bishop J, Tani Y, Witt K, Johnson J, **Peddada SD**, Dunnick J and Nyska A. (2004). Mitochondrial damage revealed by morphometric and semiquantitative analysis of mouse pup cardiomyocytes following *in utero* and postnatal exposure to Zidovudine and Larnivudine. **Toxicological Sciences**, **81**, 512-517.
50. Deroo B, Hewitt S, **Peddada SD** and Korach K. (2004). Estradiol regulates the thioredoxin antioxidant system in the mouse uterus. **Endocrinology**, **145**, 5485-92.

51. Wormser U, Lagenbach R, **Peddada SD**, Sintov A, Bordsky B and Nyska A. (2004). Reduced sulfur mustard-induced skin toxicity in cyclooxygenase-2 knockout and celecoxib-treated mice. **Toxicology and Applied Pharmacology**, **200**, 40-47.
52. Gray T, Nettesheim P, Loftin C, Koo J, Bonner J, **Peddada SD** and Langenbach R. (2004). IL-1 β induced mucin production in human airway epithelium is mediated by PGE2 receptors and cAMP-PKA signaling. **Molecular Pharmacology**, **66**, 337-346.
53. Potti A, Hoke H, Ward S, **Peddada S.D**, Wu J, Ortel T, Nyska A. (2004). A novel chemically induced Fischer F344 rat model for thrombotic sequelae of hemolytic anemias. **Blood**, **104**, 3519.
54. **Peddada SD**, Dinse G and Haseman J. (2005). A survival-adjusted quantal response test for comparing tumor incidence rates. **J. Royal Statist. Soc., Ser – C**, **54**, 51-61.
55. Lewis D, Nyska A, Johnson K, Malarkey D, Ward S, Stricker M, **Peddada S. D**, Shabat S and Nyska, M. (2004). 2-butoxyethanol-female rat model of hemolysis and disseminated thrombosis: X-ray characterization of osteonecrosis and growth plate suppression. **Toxicologic Pathology**, **33**, 272-282.
56. Hoffler U, Dixon D, **Peddada SD** and Ghanayem B. (2005). Inhibition of Urethane-Induced Mutagenicity and Cell Proliferation in CYP2E1-null Mice. **Mutation Research**, **572**, 58-72.
57. Tani Y, Foster P, Sills R, Chan P, **Peddada SD** and Nyska A. (2005). Epididymal sperm granuloma induced by chronic administration of 2-methylimidazole in B6C3F1 mice. **Toxicologic Pathology**, **33**, 313-319.
58. Yoshizawa K, Marsh T, Foley J, Cai B, **Peddada S.D**, Walker N. and Nyska A. (2005). Mechanisms of exocrine pancreatic toxicity induced by oral treatment with 2,3,7,8-Tetrachlorodibenzo-p-Dioxin in female Harlan Sprague-Dawley rats. **Toxicological Sciences**, **85**, 594-606.
59. **Peddada SD**, Dunson DB and Tan X. (2005). Estimation of order-restricted means from correlated data. **Biometrika**, **92**, 703-715.
60. Drake JW, Bebenek A, Kissling GE and **Peddada SD** (2005). Clusters of mutations from transient hypermutability. **Proceedings of National Academy of Sciences**, **102**, 12849-12854.
61. **Peddada SD**, Harris S, Zajd J and Harvey E. (2005). ORIOGEN: Order Restricted Inference for Ordered Gene Expression data. **Bioinformatics**, **21**, 3933-3934.
62. Houle C, **Peddada SD**, McAllister K, Ward T, Malphurs J, Gersch W. and David B. Mutant *Brca2/p53* mice exhibit altered radiation responses in the developing mammary gland. **Experimental and Toxicologic Pathology**, **57**, 105-115.

63. Brodsky B, Trivedi S, **Peddada SD**, Flagler N, Wormser U. and Nyska A. (2005). Early effects of iodine on DNA synthesis in sulfur mustard-induced skin lesions. **Arch. Toxicol.**, **80**, 212-216.
64. **Peddada SD**, and Kissling G. (2005). A Survival-Adjusted Quantal-Response Test for Analysis of Tumor Incidence Rates in Animal Carcinogenicity Studies. **Environmental Health Perspectives**, **114**, 537-541.
65. Jackson M, Lea I, Rashid A, **Peddada SD** and Dunnick J. (2005). Genetic Alterations in cancer knowledge system: Analysis of gene mutations in mouse and human liver and lung tumors. **Toxicological Sciences**, **90**, 400-418.
66. Lewis D, Nyska A, Potti A, Hoke H, Klemp K, Ward S, **Peddada SD**, Wu J and Ortel T. (2006). Hemostatic Activation in a Chemically Induced Rat Model of Severe Hemolysis and Thrombosis. **Thrombosis Research**, *in press*.
67. **Peddada SD** and Haseman J. (2006). Analysis of nonlinear regression models: A cautionary note. **Dose-Response**, **3**, 342-352.
68. Liu D, **Peddada SD**, Li L and Weinberg C. (2006). Phase analysis of circadian-related genes in two tissues. **BMC Bioinformatics**, **7**: Art. No. 87.
69. **Peddada, SD** Haseman J, Tan X and Travlos G. (2006). Tests for simple tree order restriction with application to dose-response studies. **J. Royal Statist. Soc., Ser - C**, **55**, 493-506.
70. Hauenstein, EJ and **Peddada, SD** (2006). Prevalence of major depressive episodes in rural women using primary care. **J. Health Care for the Poor and Underserved**, *in press*.
71. **Peddada, SD**, Dinse, G and Kissling, G (2006). Incorporating Historical Control Data When Comparing Tumor Incidence Rates. **J. Amer. Stat. Assoc.**, *accepted for publication*.

Book Chapters and Reviews

72. **Peddada SD** (1993). Jackknife Variance Estimation and Bias Reduction. **Handbook of Statistics, Vol. 9: Computational Statistics, North Holland, Amsterdam**, (ed. C. R. Rao) 723-742.
73. **Peddada SD** (1994). Review of "Pitman's Measure of Closeness: A Comparison of Statistical Estimators" by J. P. Keating, R. L. Mason and P. K. Sen (SIAM, Philadelphia, PA, 1993). **J. Amer. Statist. Assoc.**, **89**, 711.
74. Zhang J, **Peddada SD** and Rogol A. (2000). Estimation of Parameters in Nonlinear Regression Models. **Statistics for 21st Century**, Eds. C. R. Rao and G. Szekely, 459-483.

75. **Peddada SD** (2003). Review of “A Biologist's guide to Analysis of DNA Microarray Data” by S. Knudsen (Wiley, New York, 2002), **Statistics in Medicine**, **22**, 2385.
76. **Peddada SD** Umbach DM and Harris S. (2006). Statistical Analysis of Time-Course and Dose-Response Microarray Experiments. **Handbook of Statistics: Bioinformatics**, North Holland, Amsterdam, (eds. **C. R. Rao** and **R. Chakraborty**), *to appear*.

Editorial Activities

- **Associate Editor** (2005-2008): **Journal of American Statistical Association – Theory & Methods**.
- **Special Issues:**
 1. Khattree R. and **Peddada SD** (Guest Editors) (2001). **Communications in Statistics, Theory & Methods**, **30**, No. 8-9, 1497-1968.
 2. **Peddada SD** (Assistant Guest Editor) (2002). **Journal of Statistical Planning and Inference**, **103**, No. 1-2, 1-472.
- **Book Review Editor** (1998- 2000): **Journal of Statistical Planning and Inference**.

International Conferences and Workshop

- Co-organizer of an international conference entitled *Statistics: Reflections on the past and visions for the future*, in honor of Professor C. R. Rao on his 80th birthday. San Antonio, TX, 2000.
- Co-organizer of special invited session and a 2-day workshop on Bioinformatics at the *International Conference on the Future of Statistical Theory, Practice and Education*. This conference was co-sponsored by the American Statistical Association, the Institute of Mathematical Statistics and IISA. Hyderabad, India, 2004.

Doctoral Students

- Todd A. Smith, “Statistical Inference in Linear Models under Heteroscedasticity.” (May, 1994)
- Robert J. McDevitt, “Automated Tracking of the Ice Floes Using Nonhomologous Regression and Local Geometric Information.” (May, 1996).
- Juan Zhang, “Analysis of Nonlinear Fixed and Random Effects Models with Applications to Statural Growth and Hormonal Changes in Boys at Puberty.” (May 1997).

- Xiaofeng Tan, “Statistical Inference for Parameters Subject to Order Restrictions.” (May 1997).
- Carol Hoferkamp, “Analysis of Fixed and Mixed Effects Linear Models under Heteroscedasticity.” (May 1999).
- Katherine Prescott, “Tests for Ordered Alternatives in Generalized Linear Models.” (May 2000).
- Stephanie Velez, “Order Restricted Inference with an Application to Phase I Studies in Oncology.” (May 2000).
- Josh Betcher, “Statistical Inference Under Order Restrictions With Applications.” (May 2004)

Invited Lectures Since 2000

A week long short course on “Design and Analysis of Toxicology and Microarray Gene Expression Data.” Department of Statistics and Operations Research, University of Valladolid, Valladolid, Spain. March 25 to April 1, 2007.

“Order Restricted Inference for Ordered Gene Expression (ORIOGEN): Analysis of time-course and dose-response microarray experiments”. Department of Mathematics, Central Michigan University, Mt. Pleasant MI, February, 2006.

“A study of fibroid growth in women: An example of inter-disciplinary research”. College of Arts and Science, Central Michigan University, Mt. Pleasant MI, February, 2006.

“Order Restricted Inference for Ordered Gene Expression (ORIOGEN): Analysis of time-course and dose-response microarray experiments”. Department of Statistics, University of South Carolina, Columbia, SC, March, 2006.

“Order Restricted Inference Approach to Gene Expression (ORIGEN): Analysis of Time Course and Dose Response Microarray Data”. Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY, September 2005.

“Order Restricted Inference Approach to Gene Expression (ORIGEN): Analysis of Time Course and Dose Response Microarray Data”. University of North Carolina, Wilmington, NC, February, 2005.

“Analysis of time-course and dose-response microarray experiments.” Bioinformatics workshop, Center for Cellular and Molecular Biology, Hyderabad, India, December 2004.

“Order Restricted Inference Approach to Gene Expression (ORIGEN): Analysis of Time Course and Dose Response Microarray Data” Vanderbilt University, Nashville, TN, November 2004.

“A geometric approach to determine association and coherence of the activation times of cell-cycling genes under different experimental conditions.” International Conference on Analysis of Genomic Data, BCASA, Harvard School of Medicine, Boston, MA, May 2004.

“Gene selection and clustering for time-course and dose-response microarray experiments using order-restricted inference,” Penn State University, University Park, PA, October 2003.

“A survival-adjusted quantal response test for comparing tumor incidence rates,” Penn State University, University Park, PA, October 2003.

“A survival-adjusted quantal response test for comparing tumor incidence rates,” Univ. of Virginia, Charlottesville, VA, October 2003.

“Designs for single or multiple agent phase I trials,” Conference on Statistics of Optimal Dosing, Washington D. C., October 2003.

“Gene selection and clustering for time-course and dose-response microarray experiments using order-restricted inference.” Univ. of Virginia, Charlottesville, VA, September 2002.

“Gene selection and clustering for time-course and dose-response microarray experiments using order-restricted inference,” International Biometric Society Conference, Freiburg, Germany, July 2002.

“A General Methodology for Testing Order Restrictions with Applications to Toxicology,” Biometrics Society, ENAR meeting, March 2002.

“A General Methodology for Testing Order Restrictions with Applications to Toxicology,” Department of Statistics, North Carolina State University, September 2001.

“Clustering Genes Using The Most Likely Cluster (MOLICL) Algorithm: An Application to Time Course Microarray Data,” NIEHS Microarray Center Meeting, August, 2001.

“Gene Selection and Sample Classification Based on Expression Data Using The GA/KNN Method - A Case Study,” Research Triangle Institute, Research Triangle Park, August, 2001.

“Analysis of Nonlinear Nonhomologous Random Effects Models with Applications to Polar Ice Tracking,” Statistics: Reflections on the past and visions for the future, an

international conference in honor of Professor C. R. Rao held at San Antonio, TX, March 2000.

Other professional activities

- **Reviewed articles for:**

American Journal of Epidemiology, American Mathematical Monthly, American Mathematical Reviews, American Statistician, Annals of Institute of Statistical Mathematics, Annals of Statistics, Biometrics, Bioinformatics, Canadian Journal of Statistics, Comm. Statist., Developmental and Reproductive Toxicology, J. Amer. Statist. Assoc., J. of Multivariate Analysis, J. of Biomedical Informatics, Mathematical Methods of Statistics, Metrika, Sankhya, Statistics and Decisions , Statist. Probab. Letters, Toxicologic Pathology.

- **Reviewed research grant proposals submitted to:**

National Science Foundation (NSF)
National Security Agency (NSA)
National Science and Engineering Research Council (NSERC) - Canada.

- **Virginia Chapter of the American Statistical Association:**

Vice-President, 1996 – 1997
President, 1997 - 1998.

- **Member of the Regional Advisory Board of the Eastern North American Region of the International Biometric Society (January 1, 2006 to December 31, 2008).**