

January 3, 2008

CURRICULUM VITAE

Name: A. K. Md. Ehsanes Saleh
*Distinguished Research Professor and Professor Emeritus
School of Mathematics & Statistics, Carleton University*

Degrees:

Ph.D.: Mathematics (Statistics), University of Western Ontario, 1965
M.A.: Mathematics (Statistics), University of Western Ontario, 1962
M.Sc.: Statistics, Dhaka, 1953
B.Sc.: Statistics, Dhaka, 1951

Research Interests:

Nonparametric Statistics; Order Statistics; Robust Estimation; Preliminary Test and Shrinkage Estimation; Empirical Bayes Estimation; Multivariate Analysis; Survival Analysis; Time-Series Analysis; Regression Quantiles; Asymptotic Theory.

Major Journals in which published:

Annals of Mathematical Statistics; Annals of Statistics, Journal of Royal Statistical Society, B Statistician (JRSS,D); Journal of Multivariate Analysis; Journal of American Statistical Association; Journal of Nonparametric Statistics; Sankhya, Metrika, Journal of Japan Statistical Society, Journal of Statistical Planning and Inference; Communications in Statistics – Theory & Methods, Statistics & Decisions, Probability and Statistics letters and others.

Books and Edited Books (2000 – 2006)

- Theory of Preliminary Test and Stein-Type Estimation with Applications, Wiley & Sons Inc., New York
- An Introduction to Probability and Statistics (2nd Edition) with Vijay K. Rohatgi, Wiley Publishers
- Data Analysis From Statistical Foundations (A Festschrift in Honour of D.A.S. Fraser). Nova Science Publishers Inc.
- A Special Volume of JSR in Honour of the 80th birthday of C.R. Rao.

Employment History

- 1997-present: Distinguished Research Professor and Professor Emeritus, School of Mathematics and Statistics, Carleton University
- 1978-97: Professor, Department of Mathematics and Statistics, Carleton University
- 1968-78: Associate Professor, Department of Mathematics and Statistics, Carleton University
- 1967-68: Associate Professor, Department of Mathematics, Simon Fraser University
- 1966-67: Assistant Professor, Department of Mathematics, Carleton University
- 1964-66: Lecturer, Department of Mathematics, University of Western Ontario
- 1954-61: Statistical Officer, Central Statistical Office, Karachi

Honours

- 1) Awarded Gold Medal (2006) by the Institute of Statistical Research and Training (ISRT), University of Dhaka, Bangladesh, for lifetime achievements and contributions to statistical sciences and development of JSR.
- 2) Awarded Gold Medal (2005) by ICSOSS for outstanding contributions to statistical sciences and the impact of the Wiley book “An introduction to Probability and Statistics” co-authored with V.K. Rohatgi.
- 3) Awarded the rank of *Honorary Member of SCC* (2005). [Citation: for landmark contributions to the development of nonparametric methods for preliminary test and Stein-type estimators; autoregression quantiles and order statistics; for the foundation of graduate program in Statistics at Carleton; training of Ph.D. students and postdoctoral; for services to profession, especially in creative organization of symposium with edited volumes.]
- 4) NSERC recognition with a certificate of 25 years of excellence (2004). [Citation: for important research achievements that have contributed to the sum total of human knowledge and advancement of the economic and social well-being of Canadians over 25 years of NSERC’s existence.]
- 5) Elected Fellow of the Bangladesh Academy of Sciences (2003). [Citation: for his outstanding contributions in the development of Statistical Sciences in Bangladesh by his outstanding research in Statistics.]
- 6) Honoured with a plaque by the Federation of Bangladesh Association of North America (FOBANA) at the 14th Annual Meeting at Toronto (September 1-4, 2000). [Citation: Most Outstanding Statistician and Academic of Bangladesh and Pride of

Bangladesh.]

- 7) Expert Member, University of Karachi, Pakistan, 2000 - , and University of Dhaka, Bangladesh, 1992-1996 and 2000 - .
- 8) Awarded ISESCO-ISOSS Gold Medal (1999). [Citation: for his outstanding research in Statistics in the organization of Islamic Conference in Member Countries.]
- 9) Award of Gold Medal and a certificate by the Islamic Society of Statistical Sciences (ISOSS) and Islamic Educational, Scientific & Cultural Organization (ISESCO), 1999. [Citation: For his outstanding research in statistics in the organization of Islamic conference member state.]
- 10) Award of Excellence with a plaque by the Canada Bangladesh Muslim Community, Ottawa, 1999. [Citation: For his outstanding contributions to Mathematical Statistics. Professor Saleh's achievements have brought pride and glory to the people of Bangladesh and to Muslims all over the world.]
- 11) Fellow, American Statistical Association, 1995. [Citation: For outstanding research on the developments of improved estimation procedures based on preliminary test and shrinkage methods; for contributions in nonparametric estimations; for service to the profession; especially the creative organization of conferences and edited volumes.]
- 12) Eugene Lukacs Distinguished (visiting) Professor, 1992-1993, Bowling Green State University, Ohio.
- 13) Editor-In-Chief, Journal of Statistical Research (1992 --)
- 14) Editorial Board Member: Journal of Nonparametric Statistics (from inception to 2003).
- 15) Award of Q.M. Hosain Gold Medal by Bangladesh Statistical Association, 1992. [Citation: For his superb quality of research, his fundamental and pioneering contributions to a variety of areas of statistical sciences; and record of extremely prolific publications; and service to the profession.]
- 16) Ogawa Award jointly with T. Kubokawa for best paper in the Journal of Japanese Statistical Society, 1991.
- 17) Fellow, Institute of Mathematical Statistics, 1991. [Citation: In recognition of his contributions to the development, dissemination, and application of mathematical statistics.]
- 18) Adjunct Professor, Department of Biometry, Kansas University Medical Centre,

Kansas, USA since 1984; Department of Statistics, Lahore University since 2000.

19) Elected Member, International Statistical Institute, The Hague, 1982.

20) Fellow, Royal Statistical Society (elected by members, 1967).

Ph. D. Thesis Titles: Supervised

1. On Some Contributions to Measurement Error Models. (H.M. Kim, 2003).
2. Preliminary test approach to Shrinkage estimation of parameters in a variety of statistical models (Javed Choudhury, 1997).
3. Some Aspects of Statistical Inference of Logistic Regression Model Parameters (M.A. Matin, 1996, Uppsala University, Thesis Co-Supervisor).
4. Some Contributions to L-estimation in Linear Regression and Autoregression Models (Sorrush Alimoradi, 1995).
5. Preliminary Test Approach Estimation: Regression Model with Spherically Symmetric Errors. (S.M. Tehdi Tabatabaey, 1995).
6. Statistical Modelling and Analysis of the Salmonella/Microsome Assay (Wolng Qnn) Co-Supervisor (1995).
7. Interface of Preliminary Test Approach and Empirical Bayes Approach to Shrinkage Estimation (A.M. Ali, 1990).
8. Estimation Strategies under Uncertain Prior Information (S.E. Ahmed, 1987).
9. Some Contributions to the Two-Sample Nonparametric Tests for Location and Scale Under Multiple censoring (J.P. Dionne, 1978).
10. On Robustness of Size of Students t test (Christine Scott, 1971).

Publications: (Listing last eight years of publications)

2007

1. Prediction of Finite Population Total in Measurement Error models. In *Recent Advances in Linear models and Related Areas* (with H.M. Kim). Eds: Shalabh and Heumann, U. Springer, pp. 79-93.

2006

2. Quasi-Empirical Bayes Methods of Estimation in ARMA(p,q) Models with Vague Prior Information on MA(q), (with M. Ould Haye). *Calcutta Statistical Bulletin*, Vol 58 Nos. 229-230, pp. 53-75.
3. Improved estimation of regression parameters when the regression lines are parallel,

(with B.U. Khan). *Journal of Applied Probability and Statistics*, Vol. **1**, No. 1, pp. 1-13.

4. MSE comparisons of classical versus modified estimators: parallelism restrictions, (with B.U. Khan). *Journal of Indian Statistical Association*, Vol. **44**, No. 1, pp. 43-60.

2005

5. Estimation of Regression Parameters; A Two-Samples Problem, (with B.U. Khan). *Journal of Statistical Theory and Applications*. Vol. **4**, No. 1, pp. 91-107.
6. Moment and Rank Estimation in Structural Errors in Variable Models (with Guijing Chen). *Jour. Chinese Statistical Assoc.* 43, 105-126.
7. Estimation of the mean-vector of a multivariate normal distribution: Sub-Space hypothesis (with M.S. Srivastava). *JMVA* 96, No.1, 55-72.
8. Optimum Critical Value for Pretest Estimators (with B.M.G. Kibria). *Comm-Stats. - Simulation and Computations*. Vol. 35, No. 2, pp. 309-319.
9. Improved estimation of regression parameters in measurement error models (with H.M. Kim). *JMVA* 95 No. 2, 273-300.
10. Quasi-empirical Bayes Methodology for Improving Meta-Analysis (with K.M. Hassanein, Ruth Hassanein and H.M. Kim). *Jour. of Biopharmaceutical Statistics*. In Press.
11. Estimation of the intercept parameter for linear regression model with uncertain non-sample prior information (with Shahjahan Khan, Z. Hoque). *Statistical Papers*, 46(3), 379-395.
12. Comparison between Han-Bancroft and Brook methods to determine optimal significance level for pre-test estimator (with B.M.G. Kibria). *Jour. Probability and Statistical Sciences* 3, 293-303.
13. Pooling multivariate data under W, LR and LM tests (with B.M.G. Kibria). *Statistical Papers*, 47, 49-68.

2004

14. Performance of positive-rule estimator in ill-conditioned Gaussian regression model (with B.M.G. Kibria). *Calcutta Statistical Assoc. Bulletin* 55 211-241.
15. Simultaneous Estimation of Regression Parameters with Spherically Symmetric Errors under Possible Stochastic Constraints (with S.M. Tabatabaey, B.M.G.

Kibria). *International Journal of Statistical Science* 3, 1-20.

16. Estimation strategies for the parameters of the linear regression models under specially symmetric distributions (with S.M. Tabatabaey, B.M.G. Kibria). *Journal Stat. Research* 38, 13-31.
17. Preliminary test ridge regression estimators with Student t-errors and conflicting test-statistics (with B.M.G. Kibria). *Metrika* 59, 105-124.

2003

18. Asymptotic properties of Stein-type Confidence Sets – A U-Statistics Approach. *Sankhya* 65, 1-11.
19. Improved estimation of regression parameters in measurement error models (with H.M. Kim). *Calcutta Statistical Assoc. Bulletin* 53, 143-166.
20. Effect of W, LR, and LM tests on the Performance of Preliminary Test Ridge Regression Estimators (with B.M.G. Kibria). *Journal of the Japan Statistical Society* 33(1) 119-136.
21. Estimation of the Mean Vector of a Multivariate Normal Distribution under Various Test Statistics (with B.M.G. Kibria). *Journal of Probability and Statistics Science* 1, 141-155.
22. Preliminary Test Estimations of the Parameters of Simple Linear Model with Measurement Errors (with H.M. Kim). *Metrika* 57, 223-251.
23. Stein-type estimators for mean vector in two-sample problem of multivariate Student-t populations with common covariance matrix (with S. Khan), *International Journal of Statistical Sciences* 1, 1-19.

2002

24. Estimation of the slope parameter for linear regression model with uncertain prior information (with S. Khan, Z. Hoque). *Jour. Stat. Research* 36, 55-73.
25. Preliminary test prediction of population total under regression models with measurement error (with H.M. Kim). *Pak. J. Statist.* 18(3), 335-357.
26. Simultaneous R-Estimation of Multivariate Locations: Subspace Hypothesis and Data Analysis from Statistical Foundations, *Nova Science Publishers*, N. Jersey, 179-194.
27. Recentered Confidence Sets: A Review of Data Analysis from Statistical Foundations (with Christian Robert). *Nova Science Publishers*, 295-308.

28. On the comparison of the pre-test and Stein-type estimators for the univariate normal mean (with S. Khan). *Statistical Papers* 42(4) 451-473.

2000

29. Strong Consistency and Asymptotic Normality of Regression Quantiles in Linear Models (with Chen, Gui-Jing). *Jour. Anhui, University Natural Sciences Edition* 24, 1-17.
30. Performance of Three Large Sample Tests in the Actual Formation of the Pretest Estimators for Regression Models in the t-error (with Baki Billah). *Journal of Applied Statistical Science* 9 No.3, 237-250.
31. Performance of the PTE based on the conflicting W, LR and LM Tests in Regression Model (with Baki Billah). *Proceedings of the International Indian Statistical Association (IISA) Conference*, held at McMaster University, Hamilton, Ontario, Canada, October 11-15, 1998, 275-285 (N. Balakrishnan, Editor)

1999

32. Improved Nonparametric Estimation of Location Vector in a Multivariate Regression model (with S.E. Ahmed). *Jour. of Nonparametric Statistics* 11, No.1-3, 51-78.
33. Estimation of Regression Coefficients in an Exponential Regression Model with Censored Observations (with S.E. Ahmed). *Journal of Japan Statistical Society* 29, 55-64.
34. Bradley Efron – A world class statistician. *Journal of Statistical Research* 33, No.2, 114-115.
35. Conflict between Pre-test estimators induced by three large sample tests under a regression model with student t error (with Baki Billah). *The Statistician (JRSSD)* 47, No. 4, 593-606.
36. Comparison of Estimators of means based on p samples from multivariate student t populations (with Shahjahan Khan). *Communications in Statistics. Theory & Methods* 27, No.1, 33-43.
37. On Some L-estimation in Auto-Regression Models (with S. Alimoradi). *Jour. Statist. Research* 32, 85-111.
38. On Some L-estimation in Auto-Regression Models (with S. Alimoradi). *Handbook of Statistics*. Elsevier 237-279.

39. Ivan P. Fellegi – A world class official statistician. *Journal of Statistical Research* 32, No.2, 113-115.
40. Improved Nonparametric Estimation of Location Vector in a Multivariate Regression model (with S.E. Ahmed). *Journal of Nonparametric Statistics*. Vol. 11, No. 1-3, pp. 51-78.
41. Estimation of Regression Coefficients in an Exponential Regression Model with Censored Observations. *Jour. Japan Statistical Society*, Vol. 29, pp. 55-64.
42. Bradley Efron – A world class statistician. *Journal of Statistical Research*, Vol. 33, No. 2, pp. 114-115.

1998

43. Conflict between Pre-test estimators induced by three large sample Tests under a regression model with student t error (with Baki Billah). *The Statistician (JRSSD)*. Vol. 47, No. 4, pp. 593-606.
44. Comparison of Estimators of means based on p samples from multivariate student t populations (with Shahjahan Khan). *Communications in Statistics. Theory & Methods*. Vol. 27, No. 1. pp 33-43.
45. Ivan P. Fellegi – A world class official statistician. *Journal of Statistical Research*. Vol. 32, No. 2. pp. 113-115.

1997

46. Shrinkage Estimators in a mixed MANOVA and GMANOVA model (with Y. Konno and T. Kubokawa). *Statistics & Decisions*. Vol. 15, pp 37-49.
47. Shrinkage Pre-test Estimator of the Intercept parameter for a Regression model with multivariate student t errors (with Shahjahan Khan). *Biometrical journal*. Vol. 39, No. 2. pp 131-147.

1996

48. Estimation of Multinomial Probabilities under a model constraint (with A.K. Gupta). *Journal of Multivariate Analysis*. Vol. 58, No 2. pp 151-161.
49. Donald A.S. Fraser (with M. Safiul Haq) *Journal of Statistical Research*. Vol. 30, No. 2, pp. 121-123.

1995

50. Autoregression Quantiles and Related Rank-Score process (with H.L. Koul). *Annals of Statistics*. Vol. 23, No 2. pp 670-689.
51. C.R. Rao: A Living Legend in Statistics. *Journal of Statistical Research*. Vol. 29, No. 2, pp. 93-98.

1994

52. Optimum Spacings, ABLUE and Tests of Hypothesis in simple linear model with extreme value errors (with K.M. Hassanein and E.F. Brown). *Journal of Statistical Research*. Vol. 28. pp 53-64.
53. L_1 - estimation of the Median of a Survey Population (with G. Bassett). *Journal of Nonparametric Statistics*. Vol. 3. pp 277-284.
54. Joint Estimation and Tests of hypothesis of Regression and Scale parameters in a Simple Linear Model with Cauchy errors based on few Regression quantiles (with K.M. Hassanein and E.F. Brown). *Journal of Nonparametric Statistics*. Vol. 3. pp 309-316.

1993

55. Performance of some new preliminary test Ridge Regression Estimators and their properties (with G. Kibria). *Communication in Statistics, Theory and Methods*. Vol. 22, No. 10. pp 2747-2764.
56. Estimating a covariance matrix of a normal distribution with unknown mean (with T. Kubokawa, T. Honda and K. Morita). *Journal of Japan Statistical Society*. Vol. 24. pp 24-34.
57. On improved positive estimators of variance components (with T. Kubokawa, S. Makita). *Statistics & Decision suppl*. No. 3. pp 3-16.
58. R-estimation of the parameters of autoregressive [AR(p)]-models (with H.L. Koul). *Annals of Statistics*. Vol. 21. pp 534-551.
59. Robust estimation for the parameter of multiple-design multivariate linear model under general restriction (with T. Shiraishi). *Journal of Nonparametric Statistics*. Vol. 2. pp 295-305.
60. Estimation of non-centrality parameters (with T. Kubokawa and C.P. Roberts). *The Canadian Journal of Statistics*. Vol. 21. pp 45-57.
61. .M. Hosain (1897-1981). *Journal of Statistical Research*. Vo.. 28, No. 1 & 2, pp. 223-236.

1992

48. Improving on MLE of coefficient matrix in a growth curve model (with T. Kubokawa and K. Morita). *Jour. Statistical Planning and Inference*. Vol. 31. pp 169-177.
62. On Shrinkage estimation of the parameters of an autoregressive Gaussian process. *Theory of probability and its application*. Vol. 37. pp 250-260.
63. Empirical bayes estimation of the covariance matrix of a normal distribution with unknown mean under entropy loss (with T. Kubokawa and C. Roberts). *Sankhya*, Vol. 54. pp 402-410.

1991

64. Point Estimation and confidence Set Estimation in a Parallelism Model: An Empirical Bayes Approach (with C.P. Roberts). *Annales D'Economie et de Statistique*. No. 23. pp 65-89.
65. On preliminary test and empirical Bayes estimator of finite population means (with A.M. Ali). *Journal of Statistical Studies* Vol. 11. pp 1-27.
66. Robust Estimation of common Regression Coefficients Under Spherical Symmetry (with T. Kubokawa and C. Roberts). *Annals of Institute of Statistical Mathematics*. Vol. 43, No. 4. pp 677-688.
67. Pitman-Closeness of Some Preliminary Test and Shrinkage Estimators (with P.K. Sen) Special issue on Pitman Measure of Closeness, *Comm. Statist.* Editors: C.R. Rao, P.K. Sen, J. Keating and R.L. Mason. Vol. 20, No. 11. pp 3643-3658.
68. Estimation of means and treatment effects in a one-way ANOVA model (with A. Ali). *Soochow. Jour. of Mathematics*. Vol. 17, No. 2. pp 287-309.
69. Asymptotic theory of simultaneous estimation for binomial means (with A. Ali). *Statistica Sinica*. Vol. 1, No. 1. pp 271-294.
70. Estimating Survivor Function Using Optimally Selected Order Statistics (with K. M. Hassanein and E. Brown). *Metrika*. Vol. 38, No. 2. pp 99-115.
71. Null distribution of locally most powerful tests for the two sample problem when the combined sample is type II censored (with V.K. Rohatgi, R. Ahluwala and P. Ji) *Soochow Jour. of Mathematics*. pp 10-25.
72. Preliminary test and empirical Bayes approach to shrinkage estimation of regression parameters (with A.M. Ali) *Jour. Japan Statist. Society*. Vol. 21, No. 1. pp 22-30.
73. Pitman closeness of Pitman Estimators. *Gujrat Statistical Reviews* (with P.K. Sen). Vol. 14. pp 1-20.

1990

74. Estimation of the mean vector of a multivariate normal distribution under symmetry (with S.E. Ahmed). *Jour. Statist. Comp. and Siml.* Vol. 35. pp 209-226.
75. Sequential Shrinkage estimation for a coefficient matrix in an multivariate regression model (with T. Kubokawa). *Japan Statist. Soc.* Vol. 20. pp 33-42.
76. Locally most powerful tests for the two sample problem when the combined sample is type II censored (with V.K. Rohatgi, R. Ahluwala and P. Ji). *Communications in Statistics Theory and Methods*. Vol. 19, No. 6. pp 2337-2355.
77. Robustified version of Stein's multivariate location estimation (with J. Jureckova). *Statistics and Probability Letters*. Vol. 9, No. 4. pp 375-380.

1989

78. Logistic distribution and its applications. *Journ. Statistical Studies*. Vol. 9. pp 1-26.

79. On some R-and M-estimators of regression parameters under uncertain restriction (with T. Shiraishi). J. Japan Stat. Soc. Vol. 19. pp 129-137.
80. Empirical Bayes subset estimation in regression models. Statistics and Decision (with M. Ghosh and P.K. Sen). Vol. 7. pp 15-35.
81. Improved Estimation in Contingency Table: Independence Structure (with A.K. Gupta and P.K. Sen). J. Amer. Statist. Assoc. Vol. 84. pp. 525-532.
82. The Stein Paradox in the Sense of Pitman Measures of Closeness (with P.K. Sen and T. Kubokawa). Ann. Statist. Vol. 17. pp 1375-1386.

1988

83. Estimation of parameters of location-scale family of distribution in complete and Type II censored samples. (with V.K. Rohatgi). Commun. Statist.- Theory Math. Vol. 17 (9). pp 2831-2858.
84. A class of distribution connected to order statistics with nonintegral sample size (with V.K. Rohatgi). Commun. Statist.- Theory meth. Vol. 17(6). pp 2005-2012.
85. Pooling Multivariate Data (with S.E. Ahmed). J. Statist. Comp. Simul. Vol. 31. pp 149-167.

1987

86. On the Asymptotic Distributional risk properties of Pre-test and shrinkage L_1 -estimators. Computational Statistics and Data Analysis (with P.K. Sen). Vol. 5, North-Holland. pp 289-299.
87. Relative Performance of stein-Rule and Preliminary Test Estimates in Linear Models Least squares Theory (with P.K. Sen). Comm. Statist.-Theory. Meth. Vol. 16. pp 461-476.
88. Estimation of the common Scale parameter of two Pareto distributions in Censored Samples (with V.K. Rohatgi). Naval Research Logistics. Vol. 34. pp 235-235.
89. On Preliminary Test and Shrinkage M-Estimation in Linear Models (with P.K. Sen). Ann. Statist. Vol. 15, No. 4. pp 1580-1592.

1986

90. On Various F-Estimation in a Parallelism Problem (with K.M. Hassanein). Soochow Journal of mathematics. Vol. 12. pp 83-94.
91. On shrinkage R-estimation in a multiple regression model (with P.K. Sen). Comm. Statist.-Theor. Meth. Vol. 15, No. 7. pp 2229-2244. Sp. Issue on Stein-Type Multivariate Estimation.
92. On Shrinkage Least-squares Estimation in a parallelism problem (with P.K. Sen). Comm. Statistic.-Theor. meth. Vol. 15, No. 5. pp 1451-1466.
93. Testing equality of location parameters and Quantiles of (s^2) Location-Scale distributions (with K. M. Hassanein). Bulletin of the Institute of Mathematics, Academia Sinica. Vol. 14, No. 1. pp 39-49.

94. Estimation and testing of quantiles of the extreme-value distribution (with K.M. Hassanein and E. Brown). *Jour. Statist. Planning and Inference* Vol. 14. pp 389-400.
95. Small sample quantile estimation of the normal distribution sing optimal order statistics (with K.M. Hassanein and E. Brown). *Jour. Inf. and Optimization Sciences. India* Vol. 7, No. 2. pp 209-225.
96. Best linear unbiased estimator for Normal distribution quantiles for small sizes up to 20 (with K. M. Hassanein and E.F. Brown). *IEEE Trans. on Reliability* Vol. R-35, No. 3. pp 327-329.

1985

97. Tests of significance for the exponential distribution based on selected quantiles (with A.M. Masoom and D. Umbach). *Sankhya* Vol. 47B. pp. 310-318.
98. On shrinkage M-estimators of location parameters (with P.K. Sen). *Comm. Statist. Theor. Meth.* Vol. 14, No. 10. 2313-2329.
99. Nonparametric shrinkage estimation in a parallelism problem (with P.K. Sen). *Sankhya* Vol. 47A, pp 156-165.
100. Asymptotic relative efficiency of some jointAests of location and scale parameters based on selected order statistics (with P.K. Sen). *Comm. Statist-theor. Meth.* Vol. 13, No. 3, pp 621-633.
101. Optimum spacings for the joint estimation and tests of hypothesis of location and scale parameters of Cauchy distribution (with K.M. Hassanein and E. Brown). *Commun. Statist.-Theor. Meth* Vol. A14, No. 1. pp 247-254.
102. On some shrinkage estimator of multivariate location (with P.K. Sen). *Ann. Statist.* Vol. 13, No. 1. pp 272-281.

1984

103. Nonparametric randomized selection procedures for location parameters (with W.-T. Huang). *Bulletin of Institute of Mathematics, Academic Sinica.* Vol. 13, No. 4. pp 297-316.
104. Quantile estimates in complete and censored samples from extreme -value and Weibull distributions (with K.M. Hassanein and E. Brown). *IEEE Transactions* Vol. R-33, No. 5. pp 370-373.
105. On least squares estimation of intercept after a preliminary test on parallelism of regression lines (with A. Lambert and P.K. Sen). *Commun. Statist.-Theo. Meth.* Vol. A14, No. 4. pp 793-807.
106. Tests of homogeneity of intercepts after a preliminary test on parallelism of several regression lines: From parametrics to asymptotics (with A. Lambert and P.K. Sen). *Commun. Statist.-Theo. Meth.* Vol. A14, No. 9. pp 2243-2259.

107. Locally most powerful rank test for the two sample problem with censored samples (with M. L. Puri). Jour. Organizational Behaviour and Statistics. India. Vol. 1, No. 1. pp 189-196.

1983

108. Large sample estimation of Pareto quantiles using selected order statistics (with M.M. Ali and D. Umbach). *Metrika*, Vol. 32. pp 49-56.
109. Tests of significance using selected sample quantiles. *Statistics and Probability Letters* (with M.M. Ali and D. Umbach). Vol. 2, No. 6. pp 295-298.
110. On the Structural Estimation of Certain Correlation Coefficients (with M.S. Haque). *Statistische Hafte*. Vol. 25. pp 211-218.
111. Hypothesis testing for Double-Exponential distribution based on optimal spacing (with D. Umbach and M.M. Ali). *Soochow Jour. Statist.* Vol. 10. pp 45-55.
112. Asymptotic properties of tests of hypothesis following preliminary test (with P.K. Sen). *Statistics and Decisions* Vol. 1. pp 455-477.
113. Nonparametric tests of location parameter after a preliminary test on regression in the multivariate case (with P.K. Sen). *Commun. Statist.- Theory. Meth.* Vol. 12 (16). pp 1855-1872.
114. Estimating the Quantiles function of a location-scale family of distribution based on a few selected order statistics (with M.M. Ali and D. Umbach). *Jour. Statist. Plan. Infer.* Vol. 8. pp. 75-86.
115. Simplified estimation of parameters of exponential distribution from samples censored in the middle (with M.M. Ali and D. Umbach). *Commun. Statist.-Simula. Comput.* Vol. 12(5). pp 609-627.
116. Estimating quantiles using optimally selected order statistics (with M.M. Ali, D. Umbach and K.M. Hassanein). *Commun. Statist.- Theory. Meth.* (19), pp 2261-2271.

1982

117. Nonparametric tests for location after a preliminary test on regression (with P.K. Sen). *Commun. Statis.-Theor. Meth.* Vol. 11(6). pp 639-652.
118. Small sample quantile estimation of exponential distribution using optimal spacings (with M.M. Ali, and D. Umbach). *Sankhya, B.* Vol. 44, No. 2, pp 135-142.

1981

119. Decomposition of finite mixture of Distributions by minimum chi square. *Aligarh Journal of Statistics, India.* Vol. 1, No. 2. pp 86-97.

1979

120. Non parametric estimation of location parametric after a preliminary test on regression in multivariate case (with P.K. Sen). *Journal of Multivariate Analysis*. Vol. 9, No. 2. pp 332-331.

1978

121. Non-parametric estimation of location parameter after a preliminary test on regression. *Annals of Statistics* (with P.K. Sen). Vol. 6. pp 154-168.

1977

122. On a further generalization of Savage test *Communications in Statistics* (with J.P. Dionne). Series A, Vol. 6, No. 12. pp 1213-1221.

1976

123. Hodges-Lehmann estimate of the location parameter in censored samples. *Annals of the Institute of Statistical Mathematics*. Vol. 28, No. 2. pp 235-247.
124. Characterization of distributions using expected spacing between consecutive order of statistics. *Journal of Statistical Research*. Vol. 10, No. 1. pp 1-13.

1975

125. Effect of truncation on the size of t-test. *Jour. Computation and simulation* (with C. Scott). Vol. 3. pp 345-68.
126. Characterization of distributions using expected spacings between consecutive order of statistics. *Journal of Statistical Research*. Vol. 10, No. 1. pp 1-13.
127. Exact Moments of order statistics from truncated exponential distribution (with C. Scott and B. Junkins). *Naval Research Logistics Qrtly*. Vol. 22, No. 1. pp 64-77.
128. On fitting exponential regression. *Statistiche Hafte* (with G.H. Chaudhury). Vol. 3. pp 213-222.
129. Explicit form of the distribution of Behrens-Fisher Statistic (with M. Rahman). *Jour. Roy. Stat. Society*. Vol. 36, No. 1. pp. 54-60. with corrigendum in Vol. 36, No. 3, pp 466.
130. Extended tables of critical values of Behrens-Fisherd-statistic. *Jour. Statistical Research* Vol. 8. pp 29-51.

1972

131. Estimation of intercept in linear regression model with one independent variable after a preliminary test on regression coefficient (with M. Ahsanullah). *International Stat. Reviews* Vol. 40, No. 2. pp 139-145.
132. Distribution of sum of independent variates from truncated discrete distribution (with M.A. Rahim). *Canadian Math. Bull.*, Vol. 31, No. 5. pp 395-398.

133. On Moments of Gini's mean difference for samples from exponential distribution (with D. Layne). *J. Statist. Res.* Vol. 6, No. 2. pp 35-42.

1970

134. Optimum allocation of quantities in disjoint intervals for the BLUE of the parameters of exponential distribution when the sample is censored in the middle (with A. Ahsanullah). *Naval Res. Logistics Qrtly.*, Vol. 171, No. 1. pp 331-349.
135. On a class of non-parametric estimates of regression parameters (with M.S. Srivastava). *J. Statist. Res.* Vol. 4, No. 2. pp 133-139.
136. Distribution of sum of independent truncated Poisson variates. *J. Statist. Res.* Vol. 4, No. 1. pp 23-25.

1969

137. Asymptotically most powerful rank tests of regression parameters from grouped data. *J. Statist. Res.* Vol. 3, No. 2. pp 1-17.
138. Arc-sin transformations and normal approximations of binomial data. *J. Statist. Res.* Vol. 2. pp. 36-39.

1967

139. Determination of exact optimum order statistics for estimating the parameters of exponential distribution when the sample is censored in the middle. *Technometrics.* Vol. 9, No. 2. pp 279-292.

1966

140. Asymptotic optimum quantiles for the estimation of parameters of the negative exponential distribution (with M.M. Ali). *Ann. Math. Stat.* Vol. 37, No. 1. pp 143-151.
141. Estimation of parameters of exponential distribution based on optimum order statistics in censored samples. *Ann. Math. Stat.* Vol. 37, No. 6. pp 1717-1735.

Refereed Papers in Conference Proceedings and Books

1. Regression Quantiles and Related Topics (1994) Guest Editor *Journal of Nonparametric Statistics.* Vol. 3, No. 3-4. Gordon and Breach Science Publishers in Switzerland.
2. Estimation of Regression parameters when errors are autocorrelated. *Statistical Sciences and Data Analysis. Proc. 3rd Pacific Area Statistical Conference.* K. Matusita, M.L. Pun and T. Hayakawa, Editors. VsP, Utrecht, The Netherlands (with E.J. Chen) pp. 61-75 (1993).
3. *Nonparametric Statistics and Related Topics.* Editor North-Holland Publishers, Amsterdam. Proc. Of the Int. Symposium. Held May 5-8, 1991. Published 1992.

4. On improved least squares estimators in multiple-design multivariate linear models under general restriction. Proc. Of Nonparametric Statistics and Related Topics. Held May 5-8, 1991 (with T. Shiraishi). Editor A.K.Md.E. Saleh, North-Holland. (1992), pp. 269-279.
5. Estimation under uncertain prior information on the Cox Proportional Hazard Model. Proc. Of Order and Nonparametrics: Theory and Application (P.K. Sen and I.A. Salama Editors) Elsevier Publisher (1992).
6. Regression quantiles and improved L-estimation in linear models. (with J. Jureckova and P.K. Sen (1991). Probability Statistics and Design of Experiments. R.R. Bahadur editor. pp- 405-418.
7. On preliminary test versions and Stein-rule estimators of the common mean of several multinormal populations. Statistics Theory and Data Analysis II Editor. M. Matusita, (North-Holland pp. 155-170) (with P.K. Sen (1991)).
8. On Shrinkage and Preliminary Test M-Estimation in a Parallelism Problem. Foundations of Statistical Inference (Ed. 1.B. MacNeill and G.J. Umphrey) D. Riedel Publishing Company, pp. 105-119 (with P.K. Sen (1988)).
9. Non-parametric and Robust shrinkage estimation in some Multivariate Linear Models. For the Proceedings on Some Multivariate Analysis. Edited by J.K. Ghosh and S.D. Gupta, pp. 403-423 (with P.K. Sen(1987)).
10. Shrinkage Least Squares Estimation in a General Multivariate Linear Models. The Proceedings of the 5th Pannonian Symposium on Math. Statistics. Ed. J. Mogyorodi, I. Vince, W. Wertz. Pp. 307-325 (with P.K. Sen(1985)).
11. Non-parametric Estimation of Intercepts after a preliminary test on parallelism of several regression lines. Biostatistics: Statistics in Biomedical, Public health and Environmental Sciences (Edited by P.K. Sen). North-Holland Publishers pp. 221-235 (with M. Akritas and P.K. Sen (1985)).
12. Preliminary test Predicted in General multivariate linear model. Proceedings of the Pacific Area Statistical Conference, Ed. M. Matusita. North-Holland Publishers. Held December 15-19, 1982, pp. 619-638 (with P.K. Sen (1985)).
13. Non-parametric shrinkage estimators of location in a multivariate simple linear model. Proceedings of the 4th Panonium Symposium on Mathematics Statistics (PSMS). September 2-6, 1983, at BatTatzmannsdorf, Austria, pp. 311-324, Eds: F. Konecny, J. Mogyorodi, W. Wertz (with P.K. Sen (1984)).
14. Rank tests-group (asymptotically most powerful) Encyclopedia of Statistical Sciences, S. Kotz and Norman Johnson, Editors. John Wiley and sons, N.Y. pp. 611-613 (1984).
15. Non-parametric preliminary test Inference. Handbook of Statistics. Vol. 4, Ed.: P.R. Krishnaiah and P.K. Sen. North-Holland Publishers. Pp. 275-279 (with P.K. Sen(1984)).
16. Least squares and Rank Order preliminary test estimation in General multivariate linear models. Proceedings of the Indian Statistical Institute Golden Jubilee

International Conference in Statistics: Application and new directions, Calcutta. December 16-19, 1981, pp. 237-253 (with P.K. Sen (1984)).

17. Non-parametric tests of equality against ordered alternatives in the case of skew data with a biomedical application. *Statistics and Related Topics: Proceedings of the International Symposium on Statistics and Related topics held in Ottawa, May 5-7, 1980.* Eds.: M. Csorgo, D.A. Dawson, J.N.K. Rao and A.K.Md. Ehsanes Saleh, North-Holland Publishers, pp. 237-283 (with A.R. Padmanabhan and M.L. Pun (1981)).
18. Estimating Quantiles of Exponential Distribution, *Statistics and Related Topics: Proceedings of the International Symposium on Statistics and Related Topics held in Ottawa, May 5-7, 1980* Ed.: Eds.: M. Csorgo, D.A. Dawson, J.N.K. Rao and A.K.Md. Ehsanes Saleh, North-Holland Publishers, pp. 145-151 (1981).
19. Pre-test estimation of component means of a multi-variate normal distribution. *Proceedings of 41st ISI meeting at Delhi, India (held December 1977)*, pp. 457-459 (1978).
20. Behrens-Fisher problem for the Exponential Distribution in censored and uncensored samples. *Transaction of Seventh Prague Conference and 1974 European meetings.* Czech. Academy of Science pp. 465-472 (1977).
21. Expected value of spacings between order statistics. A modern course on statistical distribution in scientific work. Vol. 3, Editors: G. Patel, pp. 143-147 (with Z. Govindraju and J.S. huang (1975)).
22. *Proceedings of the symposium on Statistics and Related Topics.* Editor: Lecture Notes Vol. 12, Carleton University (1975)
23. *Parametric Estimation by M.T. Watson Edited, Chapter 2* (1975).
24. *Proceedings of the Symposium on Statistics and Related Topics.* May 5-8, 1980. Edited by M. Csorgo, D.A. Dawson, J.N.K. Rao and A.K.Md.E. Saleh. North Holland Publishers. Amsterdam.
25. Tables for estimation of exponential distribution by linear combination of order statistics, *Jour. Math. Computations.* Vol. 20, pp. 562-63 (with M. Subya and M. Jabranaski) (1966).
26. *Statistics and Related Topics.* May 5-8, North-Holland (with M. Csorgo, S.A. Dawson and J.N.K. Rao (Editors) 1981).

Presentations:

Keynote Speaker

'Remarks on Regression Quantiles and its Applications'. 3rd Eugene Lukacs Symposium in Statistics held March 25-27, 1993.

'Recent Development in Statistical Theory and Applications' Q.M. Hosain gold Medal Lecture, 25 July 1993, University of Dhaka, Bangladesh.

Recent Development of Preliminary Test Approach to Estimation. 217th Institute of

Mathematical Statistics meeting. Houston, Texas USA. March 24-27, 1991.

Recent Development of Preliminary Test Approach to Shrinkage Estimation. Statistics Day, Inference under uncertain prior information, University of Regina, Regina, Canada 6th April, 1990

Shrinkage Least-Squares Estimation in General Multivariate Linear Models. 5th Pannonium Symposium on Mathematical Statistics. Visegrad Hungary, 25-28 July, 1985.

Invited Speaker

Various regression estimators and their properties. Jahangirnagar University, Dhaka, 22 July 1993.

Estimation of location and scale parameters in randomly consored samples. University of Dhaka 26 July 1993.

Logistic distribution and regression estimators - continuous and binary data case. Institute of Statistical Research and Training, University of Dhaka, 24 July 1993.

Estimation of auto-regressive parameters. Singapore National University, 12 July 1993.

Preliminary test and shrinkage estimators of regression parameters, Michigan State University, 14 September 1992, USA.

L-estimation of regression parameters based on selected regression quantiles, February 1993, Bowling Green State University, Ohio, USA.

Weekly seminar on 'Preliminary Test Approach to Shrinkage Estimation', as Eugene Lukacs Distinguished (visiting) Professor from February-May, 1993.

Estimation of regression coefficient when errors are auto correlated. Pacific Area Conference, Japan. Held 10-15 December 1991.

Asymptotic theory for simultaneous estimation of binomial means. Yokohama City University, Yokohama, Japan 8-10December 1991.

Priliminary test approach to estimation. Dept. of Statistics, University of Dhaka, 18-20 December 1991 (Bangladesh).

On shrinkage estimation via preliminary test. 22-29 December 1991. Jahangirnagar University, Dhaka, Bangladesh.

Estimaiton of regression coefficients when errors are autocorrelated. 3rd International Conference on Environmetrics Held at Madison, Wisconsin, 7-10 October, 1991.

Estimation of regression coefficients in a proportional hazard model. International Conference on Order Statistics and Nonparametric Statistics. Held at Alexandria, Egypt, 18-20 September, 1991.

Preliminary test and Shrinkage estimation of regression parameters - a review. Conference on Applied Statistics to honor 71st Birthday of Professor C.R. Rao. Held 21-23 May, 1991.

Pitman-Closeness of Some Preliminary Test and Shrinkage Estimators. Conference on Pitman-Closeness Criterion. University of Texas, St. Antanio, USA. June 14-15, 1991.

Asymptotic Theory for Simultaneous Estimation of Binomial Means. First Eugene Lukac's Symposium on Mathematical Statistics. Bowling Green State University, Bowling Green, OHIO, USA, April 27-28, 1991.

On Shrinkage estimation of auto-regression parameters in Gaussian Process. American mathematical Society. Special sessions on Probability and Statistics. Ball State University, 27-28 October 1989.

How to estimate missing cell in a contingency table. Department of Statistics, Charles University, Prague Czechoslovakia. 22-28 May, 1989.

Some developments on preliminary test and Shrinkage estimation. Banach Mathematical Centre, Warsaw Poland. 10-22 May, 1989.

Contingency table and estimation. Department of Mathematics and Statistics, University of Windsor, Canada. 10 March 1989.

Regression Quantiles and Improved L-estimation in a linear model. R.C. Bose Symposium, Delhi, India. 24-27 December, 1988.

Preliminary test approach to estimation. Department of Statistics and Actuarial Sciences, University of Western Ontario, London. 10 March 1988.

Quantile estimation using optimum order statistics, Department of Statistics, University of Manitoba, Winnipeg. 12 April 1987.

On Shrinkage estimation for parallelism problem. Department of Mathematics and Statistics, Bowling Green State University. 15 March 1986.

On improved estimation of cell-proportions in a contingency table. Institute of Mathematics, University of Tsukuba, Tsukuba, Japan. 15-16 December 1986.

On preliminary test version and Stein-rule estimation of common mean of several multinormal populations. Pacific Area Conference, Tokyo, Japan. 10-14 December 1986.

Estimation of regression parameters under uncertain restriction in a subspace (with M.M. Ali). Festschrift, Department of Statistics and Actuarial Sciences, University of Western Ontario, London, 15 May, 1986.

On Improved estimation of location. Department of Statistics, Purdue University, 20 March, 1986.

R-estimation of regression parameters. Statistical Conference in the Basque country, Bilbao, Spain. 9-10 August 1985.

Shrinkage least squares estimation in a general multivariate linear model. 5th Pannonium Symposium on Mathematical Statistics. Visegrad, Hungary, 24-29 July, 1985.

Nonparametric Shrinkage estimation of locations. Department of Industrial Engineering and Operation Research, Cornell University, N.Y., 20 March, 1985.

Estimation of location parameters. ICDDR, Mohakhali Dhaka, Bangladesh. 20 February, 1985.

Statistical Education in Canada. Institute of Statistical Research and Training, University of Dhaka, Dhaka Bangladesh. 18-22 January 1985.

Preliminary test estimation. Department of Statistics, University of Manitoba, 15th October 1983.

Nonparametric test of location parameter after a preliminary test on regression. Meeting of the European Statisticians, Palermo, Sicily, 15 September 1983.

Preliminary test prediction in general multivariate linear model. Pacific Area Conference, Tokyo, Japan. 14-17 December, 1982.

On Quantile Estimation using Order Statistics, Department of Biometry, Kansas University Medical Centre, Kansas, USA. 22 October, 1982.

Preliminary test estimation of locations, Department of Statistics, University Missouri, Columbia, USA. 20 October 1982.

A review of quantile estimation using optimum order statistics, Department of Mathematical Sciences. Ball State University, Muncie, Indiana. 10 October, 1982.

A course on Order Statistics and Estimation, Department of Mathematics, MIT, Cambridge, USA. 15 February - 15 March 1981.

Data Analysis, Department of Statistics, Jahangirnagar University, Savar, Bangladesh. 14 December 1978.

Order Statistics and its Properties. Department of Statistics, University of Dhaka, Bangladesh 22 November 1978.

Robust estimation of location. Department of Statistics, University of Dhaka, Bangladesh. 20 November 1978.

A course on "Estimation Theory", Department of Statistics, University of Dhaka, Bangladesh. 2-10 December 1978.

A course on 'Statistics for Social Sciences', Department of Statistics, Stanford University, USA. 15 June - 15 August 1978.

A course on 'Engineering Statistics', Department of Statistics, Stanford University, USA. 15 June - 15 August, 1978.

A course on "Elements of Nonparametric Statistics", Institute of Statistical Research and Training. University of Dhaka, Dhaka Bangladesh. 2-6 August 1976.

Characterization of Distributions Using Order Statistics, Institute of Statistical Research and Training. University of Dhaka, Dhaka Bangladesh. 23 August 1976.

Hodges-Lehmann Estimate in Censored Samples, Statistics Day Speaker, Ball State University, Muncie, Indiana USA. April 9-10 1976.

Characterization of Distributions using Spacings of Order Statistics, Colloquium Speaker, Department of Mathematics and Statistics. University of Guelph, Canada. 15 November 1972.

Paper Presented at Learned Societies:

Estimating a covariance matrix of a normal distribution with unknown mean. Fifth Purdue International Symposium on Statistical Decision Theory and Selected Topics. June 14-20

1992. Held at West Lafayette (Purdue University, Indiana USA).

Estimation of means and treatment effects in an one-way ANOVA mode. Joint meeting if IMS and World Congress of Bernoulli Society. Uppsala, Sweden. 13-18 August 1990.

Estimation of functions of location and scale parameters using optimum order statistics. Joint IMS and World Congress of Bernoulli Society, Uppsala, Sweden. 13-18 August 1990.

Asymptotic Theory of Baseball Data Analysis. 47th Session of the International Statistical Institute, Paris, France. September 5, 1989.

Preliminary Test Approach to Shrinkage Estimation Conference on Bayesian Statistics, Sherbrooke University, Quebec, 15-16 June, 1989.

Shrinkage M-Estimation of Location Parameter. Centennial Session of International Statistical Institute Amsterdam, Holland, 1987.

Estimation Quantiles of Exponential Distribution NSF Meeting on 'Quantiles Processes'. Texas A&M College Station, Texas, USA. June 15-19 1981.

On a further generalization of Savage Test, Joint Meeting IMS and AMS, Seattle, Washington. 15-18 August 1977.

Estimation of mean of a multivariate normal distribution using Preliminary Test. Symposium on Statistical Decision Theory and Related Topics. Purdue University, Lafayette, Indiana. 17-19 May 1976.

Linear Order estimate of location parameter with Pitman's efficiency. Symposium on Statistics and Related Topics, Carleton University, Ottawa. 24-26 October 1974.

On Behrens-Fisher Problem for the Exponential Distribution in Censored Samples. Joint Meeting of European Statisticians and 7th Prague Conference on Information theory, Statistical Decision Function and Random Process. Prague, Czechoslovakia. 18-23 August, 1974. Also visited Rothamsted Experimental Station for 3 days.

Decomposition of Finite Mixtures, Ontario Mathematical Meeting, University of Waterloo, Waterloo. 23 March 1974. Robust estimation, Department of Mathematics, University of Toronto, Toronto. 23 March 1972.

Characterization of Distributions Based on Expected Spacings Between Consecutive Order Statistics. Ontario Mathematical Meeting, University of Western Ontario, London. 10 March 1971.

Estimation of regression coefficients in a polynomial regression model. summer Research Institute, Queen's University, Kingston. 22 June 1971.

Robustness of Dixions statistics. Ontario Mathematical Meeting. Carleton University. 22 February 1970.

Estimation of location after a preliminary test on regression. European Meeting of Statisticians, Hannover, Germany. 22-24 July 1970.

Determination of exact optimum order statistics for estimating the parameters of exponential distribution in censored sample. Summer Research Institute, Queen's University, Kingston., 22 June 1967. Optimum Quantiles for Exponential Distribution Institute of Mathematical Statistics Meeting, Chicago, USA. 15 June 1964.

Editorial Board Membership

Editor, Journal of Statistical Research, a journal devoted to statistical research.

Member, Journal of Nonparametric Statistics, an international Journal devoted to nonparametric statistics and its application.

Member, Journal of Statistical Studies - a journal devoted to Applied Statistics.

Referee and Review Service:

Journal of American Statistical Association

Journal of Nonparametric Statistics

Journal of Japan Statistical Society

Annals of Statistics

Annals of the Institute of Statistical Mathematics

Journal of Multivariate Analysis

The Canadian Journal of Statistics

The Aligarh Journal of Statistics

The Journal of Statistical Research

The Pakistan Journal of Statistics

Journal of Computation and Simulation

Communications in Statistics -- Theory and Methods

IEEE

Mathematical Reviews

Zentrablatt Fur Mathematik

Editing of Volumes

Edited a special volume of the Journal of Nonparametric Statistics on "Regression Quantile" (1994).

Edited the volume "Nonparametric Statistics and Related Topics", Proceedings of the International Symposium on Nonparametric Statistics and Related Topics. North-Holland Publishers (1991).

I have co-edited the Proceedings of the International Symposium on Statistics and Related Topics, 5-8 May 1980, Published by North-Holland Publishers (1981).

I have edited the proceedings of the 3-day symposium on Statistics and Related Topics, 24-26 October 1974, which was published by Carleton mathematics Series, No.12, 1974.

Consulting Research

As Adjunct Professor, Department of Biometry, Kansas University Medical Centre Kansas City my consulting service are provided on survival analysis, multivariate data analysis, nonparametrics in developing new methodology since 1982.

Worked as Statistical Advisor at Statistics Canada (summer of 1975) in Labour Force Survey Division.

Member of the Carleton University Statistical Consulting Services (1975-85). Worked on the NRC IRAP project in collaboration with Dr. R. Thomas. Value of contract \$25,000.00

Statistical Consultant for the Sunnybrook Hospital, Toronto, 1971-72.

Consultant to the Department of Social Welfare (1969-71).

Consultant to Rio Algom Mines, 1964-65.