Curriculum Vitae: Yasunori Fujikoshi

Name: Yasunori Fujikoshi

Date of Birthdate: January 28, 1942

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Education:

Bachelor of Science, Mathematics, March 25, 1964.
Hiroshima University, Hiroshima, Japan

Master of Science, Mathematics, March 25, 1966.
Hiroshima University, Hiroshima, Japan.

Doctor of Science, Statistics, November 9, 1970.
Hiroshima University, Hiroshima, Japan.
The title of thesis is "Asymptotic expansions of the distributions
of test statistics in multivariate analysis".

Past and Present Positions:

Research Associate, Department of Mathematics, Faculty of Science, Hiroshima University, April 1966 $\sim$ March 1971.

Lecturer, Department of Mathematics, Faculty of General Education, Kobe University, April 1971 $\sim$ July 1972.

Associate Professor, Department of Mathematics, Faculty of General Education, Kobe University, August 1972 $\sim$ March 1978.

Professor, Department of Applied Mathematics, Faculty of Engineering, Hiroshima University, April 1978 $\sim$ March 1982.

Professor, Department of Mathematics, Faculty of Science, Hiroshima University, April 1982 $\sim$ March 2000.

Professor, Department of Mathematics, Graduate School of Science, Hiroshima University, April 2000 $\sim$ March 2005.

Emeritus Professor of Hiroshima University, April 2005 $\sim$ up to this date.

Joint Appointment Professor, The Institute of Statistical of Mathematics, April 1986 $\sim$ March 1987.

Joint Appointment Professor, The Institute of Statistical of Mathematics, April 1993 $\sim$ March 1994.

Visiting Professor, Graduate School of Science and Engineering,Chuo University, April 2005 $\sim$ March 2012.

Visiting Professor, Department of Advanced Social and International Studies, University of Tokyo, April 2006 $\sim$ March 2008.

Project Professor, Faculty of Health and Life Science, Hiroshima Institute of Technology, April 2012 $\sim$ March 2013.

Advisor of the Hiroshima University Statistical Science Research Core, June 2014 $\sim$ up to this date.

Visiting Researcher, Graduate School of Science, Hiroshima University, April 2017 $\sim$ up to this date.

Foreign Visiting Positions:

Visiting Research Associate, Department of Mathematics and Statistics, University of Calgary, Calgary, Alberta, Canada, June 1975 $\sim$ August 1975.

Visiting Senior Research Scientist, Division of Mathematics and Statistics, CSIRO, Adelaide, South Australia, Australia, October 1976 $\sim$ October 1977.

Visiting Professor, Graduate School of Mathematics, Tamkang University, Tamsui, Taiwan, February 1980 $\sim$ July 1980.

Visiting Professor, Center for Multivariate Analysis, University of Pittsburgh, Pittsburgh, USA, July 1983 $\sim$ August 1983.

Visiting Professor, Center for Multivariate Analysis, University of Pittsburgh, Pittsburgh, USA, July 1985.

Visiting Professor, Center for Multivariate Analysis, University of Pittsburgh, Pittsburgh, USA, June 1988 $\sim$ August 1988.

Visiting Professor, Center for Multivariate Analysis, Pennsylvania State University, State College, USA, June 1990 $\sim$ July 1990.

Visiting Professor, Center for Multivariate Analysis, Pennsylvania State University, State College, USA, October 1991 $\sim$ November 1991.

Visiting Professor, Center for Multivariate Analysis, Pennsylvania State University, State College, USA, April 1992 $\sim$ May 1992.

Visiting Professor, Institute of Applied Mathematics, Chinese Academy of Sciences, October 1995.

Visiting Professor, Department of Mathematics, Uppsala University, Uppsala, Sweden, August 1997 $\sim$ Setember 1997.

Visiting Distinguished Lukacs Professor, Department of Mathematics and Statistics, Bowling Green State University, Bowling Green, Ohio 43403-0210, USA, August 2001 $\sim$ December 2001.

Visiting Professor, Department of Statistics and Applied Probability, National University of Singapore, May 2012.

Visiting Professor, Department of Statistics and Applied Probability, National University of Singapore, November 2012.

Visiting Professor, Department of Statistics and Applied Probability, National University of Singapore, January 2014.

Visiting Professor, Department of Statistics and Applied Probability, National University of Singapore, March 2015.

Visiting Professor, School of Mathematics and Statistics, Northeast University, October 2015 $\sim$ November 2015.

Member of the Editorial Board of Scientific Journals:

1. Journal of the Japan Statistical Society, 1982 $\sim$ 1984.
2. Journal of Multivariate Analysis, 1983 $\sim$ 1987.
3. Journal of Multivariate Analysis (One of the Editors), 1987 $\sim$ 2002.
4. Hiroshima Mathematical Journal, 1982 $\sim$ 2005.
   Managing Editor; 1992 $\sim$ 1994.
5. Japanese Journal of Mathematics, 1992 $\sim$ 1994.

6. Bulleting of Informatics and Cybernetics, 1995 $\sim$ 2005.
7. Behaviormetrika 1997 $\sim$ 2002.
8. Sankhya, 1999 $\sim$ 2001.
9. Journal of Japan Computational Statistics, 2000 $\sim$ 2008.
10. Mathematical Review, Reviewer: 1979 $\sim$ up to this date.

Officials in Academic Societies:

1. Member of the Council of Japan Statistical Society, 1980 $\sim$ 1987, 1989 $\sim$ 1996, 1998 $\sim$ 2000, 2003 $\sim$ 2009.
2. Member of the Council of Japan Mathematical Society, 1984 $\sim$ 1987.
3. Member of the Council of Japanese Society of Applied Statistics, 1989 $\sim$ 1991.
4. Chairman of the Council of Japan Statistical Society, 1992 $\sim$ 1994.
5. Member of the Expert Advisor Committee, Japan Society for the Science Council, 1994 $\sim$ 1996, 1998 $\sim$ 2000.
6. Member of the Judging Committee, Research Fellowship for Young Scientists, Japan Society for the Promotion of Science, 1996 $\sim$ 1998.
7. President of Japan Statistical Society, 2003 $\sim$ 2005

Awards:

1. Elected Member; International Statistical Institute, 1984.
2. 1998 Jacob Wolfwowitz Prize; for the paper "A method for improving the large-sample chi-squared approximations to some multivariate statistics" by Y. Fujikoshi, Amer. J. Math. Manage. Sci. 17(1997), 15-29. The judges stated is "a clever, original and deep paper in an area of great theoretical interest which uses innovative transformations in its development."
3. 1999 Japan Statistical Society Prize; for outstanding contributions in multivariate analysis, in particular, in the areas of higher order asymptotic theory of multivariate tests and of error estimates of multivariate approximations.
4. 1999 Jacob Wolfwowitz Prize; for the joint paper "Some basic properties of the MLE's for a multivariate normal distribution with monotone missing data" by T. Kanda and Y. Fujikoshi, Amer. J. Math. Manage. Sci. 18(1998), 161-190. The judges stated is "MLE's and their properties have been of theoretical interest for decades. Advances our knowledge about estimation of missing data.

5. IMS Fellow; Institute of Mathematical Statistics, 2004.

6. 2004 Hiroshima University President Prize: for excellent contributions in educational activities.

7. 2006 Jacob Wolfwowitz Prize; for the joint paper "Bias corrections of some criteria for selecting multivariate linear models in a general nonnormal case" by Y. Fujikoshi, H. Wakaki and H. Yanagihara. Amer. J. Math. Manage. Sci. 25(2005), 221-258.

8. Honorary Member; Japan Statistical Society, 2005.

9. 2013 Publication Prize, Japan Statistical Society: for the book, "Multivariate Statistics: High-Dimensional and Large-Sample Approximations" by Fujikoshi, Y., Ulyanov, V.V. and Shimizu, R. (2010), Wiley, Hobeken, N. J.

10. Award for Excellence in Academic Activities; Notheast Normal University, November 2015.

Distinguished Professor · Memorial Lecture · Speacial Issue:

1. 2000-2001 Eugene Lukacs Distinguished Professor, Department of Mathematics and Statistics, Bowling Green State University, USA.

2. S. N. Roy Memorial Lecturer, Department of Statistics, University of Calcutta, India, Decmber, 2000.

3. Special Issue dedicated to Prof. Fujikoshi; Journal of Multivariate Analysis (2006, Vol.97, No.9).

Doctor of Science Students and Reseachers Completed:

1. Main-research advisor for 25 doctor of science students and researchers completed at Faculty of Science, Hiroshima University.

2. Co-research advisor for 7 doctor of science students and researchers completed at Faculty of Science and Engineering, Chuo University.

Advisor:

1. Advisor of the Radiation Effects Research Foundation, 1986 $\sim$ March 2005.

2. Advisor of Statistics, Esumi Co., Ltd., April 2005 $\sim$ 2010.

3. Advisor of the Hiroshima University Statistical Science Research Core, June 2014 $\sim$ up to this date.

Current Membership in Academic Societies:

1. International Statistical Institute (Elected member)
2. Institute of Mathematical Statistic, U.S.A.
3. American Statistical Association
4. Japan Statistical Society
5. Japan Mathematical Society
6. Japanese Society of Applied Statistics
7. Biometric Society of Japan

Topics in Research Papers;

(I) Main Topics

1. Statistical Inference for MDC (Multivariate regression, Discriminant analysis, Canonical correlation analysis) Models.
2. Asymptotic Expansions of Basic Statistics including the Characteristic Roots under Non-Normality as well as Normality.
3. Formulation and Statistical Inference for Additional Information.
4. Methods for Selection of Variables in MDC Models by Model Selection Approach and Their Properties.
5. Reduction of Dimensionality in MDC Models.
6. Error Bounds of Asymptotic Approximations.
7. Statistical Inference for Repeated Measures Data.
8. Statistical Data Analysis.
9. Statistical Inference by Random Matrix Theory.
10. High-Dimensional Consistencies of Information Criteria.
11. High-Dimensional Approximations of Characteristic Roots of Multivariate Statistics.

(II) Other Topics;

Allometric extension model, Autoregressive model, ANOVA models with unbalanced data, Estimation of noncentrality matrix and its eigenvalues, Langevin model for directional data, Graphical modelling, Improved transformations, Logistic regression model, Mixed effects models,

Multinomial goodness-of-fit statistics, Multivariate inverse regression, Profile Analysis, Selection of covariance structures, Simultaneous equation system, Statistical inference for monotone missing data, Tukey conjecture for multiple comparison,

List of Articles (Referred) :

1. KUBO, Y., FUJIKOSHI, Y. et al. (1964). A study of prediction of unsuccessful students in finishing general education course. *The Faculty of General Education Hiroshima Univ.*, **3**, 1-17 (in Japanese).

2. YAMAMOTO, S. and FUJIKOSHI, Y. (1967). The linear hypotheses and constraint. *J. Sci. Hiroshima Univ. Ser. A-I*, **31**, 211-219.

3. FUJIKOSHI, Y. (1968). Asymptotic expansion of the distribution of the generalized variance in the non-central case. *J. Sci. Hiroshima Univ. Ser. A-I*, **32**, 293-299.

4. YAMAMOTO, S. and FUJIKOSHI, Y. (1968). Two-way classification designs with unequal cell frequencies. *J. Sci. Hiroshima Univ. Ser. A-I*, **32**, 357-370.

5. SUGIURA, N. and FUJIKOSHI, Y. (1969). Asymptotic expansions of the non-null distributions of the likelihood ratio criteria for multivariate linear hypothesis and independence. *Ann. Math. Statist.*, **40**, 942-952.

6. FUJIKOSHI, Y. (1970). Asymptotic expansions of the distributions of test statistics in multivariate analysis. *J. Sci. Hiroshima Univ. Ser. A-I*, **34**, 73-144.

7. FUJIKOSHI, Y. (1971). Asymptotic expansions of the nonnull distributions of two criteria for the linear hypothesis concerning complex multivariate normal populations. *Ann. Inst. Statist. Math.*, **23**, 477-490.

8. FUJIKOSHI, Y. (1972). Asymptotic formulas for the distributions of the determinant and the trace of a noncentral beta matrix. *J. Multivariate Anal.*, **2**, 208-218.

9. FUJIKOSHI, Y. (1973). Monotonicity of the power functions of some tests in general MANOVA models. *Ann. Statist.*, **1**, 388-391.

10. FUJIKOSHI, Y. (1973). Asymptotic formulas for the distributions of three statistics for multivariate linear hypothesis. *Ann. Inst. Statist. Math.*, **25**, 423-437.

11. FUJIKOSHI, Y. (1973). Likelihood ratio tests of certain hypotheses about principal components. *J. Japan Statist. Soc.*, **4**, 5-9.

12. FUJIKOSHI, Y. (1974). Asymptotic expansions of the nonnull distributions of three statistics in GMANOVA. *Ann. Inst. Statist. Math.*, **26**, 289-297.

13. FUJIKOSHI, Y. (1974). The likelihood ratio tests for the dimensionality of regression coefficients. *J. Multivariate Anal.*, **4**, 327-340.

14. Fujikoshi, Y. (1974). On the asymptotic nonnull distributions of the LR criterion in a general MANOVA. *Canadian J. Statist.*, **2**, 1-12.

15. Fujikoshi, Y. (1975). Asymptotic formulas for the non-null distributions of three statistics for multivariate linear hypothesis. *Ann. Inst. Statist. Math.*, **27**, 99-108.

16. Fujikoshi, Y. (1975). Partial differential equations for hypergeometric functions ${}_3F_2$ of matrix argument. *Canadian J. Statist.*, **3**, 153-163.

17. Okamoto, M. and Fujikoshi, Y. (1976). Perturbation of a matrix function and its application to multivariate analysis. *J. Japan Statist. Soc.*, **6**, 33-37.

18. Fujikoshi, Y. and Isogai, Y. (1976). Lower bounds for the distributions of certain multivariate test statistics. *J. Multivariate Anal.*, **6**, 250-255.

19. Fujikoshi, Y. and Kanazawa, Y. (1976). The ML classification statistic in covariate discriminant analysis and its asymptotic expansions. In *Essays in Probability and Statistics* (S. Ikeda and Others, Ed.), 305-320, Shinko Tsusho Co. Ltd., Tokyo.

20. Fujikoshi, Y. (1977). Asymptotic expansion for the distributions of the latent roots in MANOVA and the canonical correlations. *J. Multivariate Anal.*, **7**, 386-396.

21. Fujikoshi, Y. (1977). An asymptotic expansion for the distributions of the latent roots of the Wishart matrix with multiple population roots. *Ann. Inst. Statist. Math.*, **29**, 379-387.

22. Kanazawa, M. and Fujikoshi, Y. (1977). The distribution of the Studentized classification statistic W in covariate discriminant analysis. Journ. Japan Statist. Soc., **7**, 81-88.

23. Fujikoshi, Y. (1977). Asymptotic expansions for the distributions of some multivariate tests. *Multivariate Analysis-IV* (P. R. Krishnaiah, Ed.), 55-71 Noth-Holland Publishing Company.

24. Fujikoshi, Y. (1978). Asymptotic expansions for the distributions of some functions of the latent roots of matrices in three situations. *J. Multivariate Anal.*, **8**, 63-72.

25. Fujikoshi, Y. and Veitch, L. G. (1979). Estimation of dimensionality in canonical correlation analysis. *Biometrika*, **66**, 345-351.

26. Fujikoshi, Y. (1980). Asymptotic expansions for the distributions of the sample roots under nonnormality. *Biometrika*, **67**, 45-51.

27. Fujikoshi, Y. (1981). Asymptotic expansions for the distributions of some multivariate tests under local alternatives. *Tamkang Journal of Mathematics*, **12**, 117-136.

28. Fujikoshi, Y. (1981). The power of the likelihood ratio test for additional information in a multivariate linear model. *Ann. Inst. Statist. Math.*, **33**, 279-285.

29. Fujikoshi, Y. (1982). A test for additional information in canonical correlation analysis. *Ann. Inst. Statist. Math.*, **34**, 137-144.

30. FUJIKOSHI, Y., MORIMUNE, K., KUNITOMO, N. and TANIGUCHI, M. (1982). Asymptotic expansions of the distributions of the estimates of coefficients in a simultaneous equation system. *J. Econometrics*, **18**, 191-205.

31. FUJIKOSHI, Y. (1983). A criterion for variable selection in multiple discriminant analysis. *Hiroshima Math. J.*, **13**, 203-214.

32. FUJIKOSHI, Y. and NISHII, R. (1983). Asymptotic comparison of three confidence regions in analysis of growth curves. *J. Japan Statist. Soc.*, **13**, 151-155.

33. FUJIKOSHI, Y. and OCHI, Y. (1984). Asymptotic properties of the maximum likelihood estimate in the first order autoregressive process. *Ann. Inst. Statist. Math.*, **36**, 119-128.

34. SIOTANI, M. and FUJIKOSHI, Y. (1984). Asymptotic approximations for the distributions of multinomial goodness-of-fit statistics. *Hiroshima Math. J.*, **14**, 115-124.

35. FUJIKOSHI, Y. and NISHII, R. (1984). On the distribution of a statistic in multivariate inverse regression analysis. *Hiroshima Math. J.*, **14**, 215-225.

36. KARIYA, T., FUJIKOSHI, Y. and KRISHNAIAH, P. R. (1984). Tests for independence of two multivariate regression equations with different design matrices. *J. Multivariate Anal.*, **15**, 383-407.

37. FUJIKOSHI, Y. (1984). Two methods for estimation of dimensionality in canonical correlation analysis and multivariate linear model. In *Statistical Theory and Data Analysis* (K. Matusita, Ed.), 233-240, North-Holland Publishing Company.

38. FUJIKOSHI, Y. (1985). An error bound for an asymptotic expansion of the distribution function of an estimate in a multivariate linear model. *Ann. Statist.*, **13**, 827-831.

39. FUJIKOSHI, Y. (1985). Selection of variables in two-group discriminant analysis by error rate and Akaike's information criteria. *J. Multivariate. Anal.*, **17**, 27-37.

40. FUJIKOSHI, Y. (1985). Selection of variables in discriminant analysis and canonical correlation analysis. *Multivariate Analysis-VI* (P. R. Krishnaiah, Ed.), 219-236, North-Holland Publishing Company.

41. FUJIKOSHI, Y. and NISHII, R. (1986). Selection of variables in multivariate inverse regression analysis. *Hiroshima Math. J.*, **16**, 269-277.

42. FUJIKOSHI, Y. (1987). Error bounds for asymptotic expansions of the distributions of the MLE in a GMANOVA model. *Ann. Inst. Statist. Math.*, **39**, 153-161.

43. FUJIKOSHI, Y. (1987). Error bounds for asymptotic expansions of scale mixtures of distributions. *Hiroshima Math. J.*, **17**, 301-324.

44. KARIYA, T., FUJIKOSHI, Y. and KRISHNAIAH, P. R. (1987). On tests for selection of variables and independence under multivariate regression models. *J. Multivariate. Anal.*, **21**, 207-237.

45. FUJIKOSHI, Y. (1987). On relationship between the AIC and the overall error rates for selection of variables in a discriminant analysis. *Multivariate Statistical Modeling and Data Analysis* (H. Bozdogan and A. K. Gupta, Ed.), 121-138., D. Reidel Publishing Company, Dordrecht.

46. FUJIKOSHI, Y., KRISHNAIAH, P. R. and SCHMIDHAMMER, J. (1987). Effect of additional variables in principal component analysis, discriminant analysis and canonical correlation analysis. In *Advances in Multivariate Statistical Analysis* (A. K. Gupta, Ed.), 45-61, D. Reidel Publishing Company, Dordrecht.

47. FUJIKOSHI, Y. (1988). Asymptotic power comparison of some tests in MANOVA and canonical correlation models. In *Statistical Theory and Data Analysis II* (K. Matusita, Ed.), 327-336, North-Holland Publishing Company.

48. FUJIKOSHI, Y. (1988). Comparison of powers of a class of tests for multivariate linear hypothesis and independence. *J. Multivariate Anal.*, **26**, 48-58.

49. FUJIKOSHI, Y. (1988). Non-uniform error bounds for asymptotic expansions of scale mixtures of distributions. *J. Multivariate Anal.*, **27**, 194-205.

50. FUJIKOSHI, Y. and SHIMIZU, R. (1988). Asymptotic expansions of some distributions and their error bounds -the distributions of sums of independent random variables and scale mixtures-. *Sugaku*, **40**, 28-44 (In Japanese), and Sugaku Expositions 3(1990) 75-96 (In English).

51. FUJIKOSHI, Y. (1989). Error bounds for asymptotic expansions of the maximums of the multivariate t- and F- variables with common denominator. *Hiroshima Math. J.*, **19**, 319-327.

52. FUJIKOSHI, Y. and SHIMIZU, R. (1989). Error bounds for asymptotic expansions of scale mixtures of univariate and multivariate distributions. *J. Multivariate Anal.*, **30**, 279-291.

53. FUJIKOSHI, Y. and SHIMIZU, R. (1989). An asymptotic expansion of some mixture of the multivariate normal distribution. *Ann. Statist.*, **17**, 1124-1132.

54. FUJIKOSHI, Y. (1989). Tests for redundancy of some variables in multivariate analysis. *Recent Developments in Statistical Data Analysis and Inference* (Y. Dodge, Ed.), 141-163, Elesevier Science Publishers B.V., Amsterdam.

55. KANDA, T. and FUJIKOSHI, Y. (1990). Asymptotic distributions of the MLE's and the LR test in the growth curve model with a special covariance structure. *Hiroshima Math. J.*, **20**, 285-295.

56. WAKAKI, H., EGUCHI, S. and FUJIKOSHI, Y. (1990). A class of tests for a general covariance structure. *J. Multivariate Anal.*, **32**, 313-325.

57. FUJIKOSHI, Y., KANDA, T. and TANIMURA, N. (1990). The growth curve model with an autoregressive covariance structure. *Ann. Inst. Statist. Math.*, **42**, 533-542.

58. FUJIKOSHI, Y. and KHATRI, C. G. (1990). A study of redundancy of some variables in covariate discriminant analysis. *Ann. Inst. Statist. Math.*, **42**, 769-782.

59. FUJIKOSHI, Y. and RAO, C. R. (1991). Selection of covariables in the growth curve model. *Biometrika*, **78**, 779-785.

60. YOSHIMURA, H., FUJIKOSHI, Y. et al. (1991). Effect on school performance of prenatal exposure to Hiroshima atomic bomb. *Japan J. Hygiene*, **46**, 747-754 (in Japanese).

61. FUJIKOSHI, Y. (1992). On confidence regions in canonical discriminant analysis. *Hiroshima Math. J.*, **22**, 469-477.

62. FUJIKOSHI, Y. (1992). Redundancy of some variables in multivariate analysis. *Japanese J. Behaviormetrics*, **19**, 18-28 (in Japanese).

63. YOKOYAMA, T. and FUJIKOSHI, Y. (1992). Tests for random-effects covariance structures in the growth curve model with covariates. *Hiroshima Math. J.*, **22**, 195-202.

64. FUJIKOSHI, Y. and WATAMORI, Y. (1992). Tests for the mean direction of the Langevin distribution with unknown and large concentration parameter. *J. Multivariate Anal.*, **42**, 210-225.

65. FUJIKOSHI, Y. (1993). Two-way ANOVA models with unbalanced data. *Discrete Math.*, **116**, 315-334.

66. FUJIKOSHI, Y. (1993). Error bounds for approximations to the distributions of the standardized and Studentized estimates in a multivariate linear model. *J. Statist. Plann. Inf.*, **36**, 165-174.

67. OTAKE, M., FUJIKOSHI, Y. et al. (1993). A longitudinal study of growth and development of stature among prenatally esposed A-bomb survivors. *Radiat. Res.*, **134**, 94-101.

68. YOKOYAMA, T. and FUJIKOSHI, Y. (1993). A parallel profile model with random-effects covariance structure. *J. Japan Statist. Soc.*, **23**, 83-89.

69. FUJIKOSHI, Y. and MUKAIHATA, S. (1993). Approximations for the quantiles of Student's t and F distributions and their error bounds. *Hiroshima Math. J.*, **23**, 557-564.

70. MUKAIHATA, S. and FUJIKOSHI, Y. (1993). Error bounds for asymptotic expansions of some distributions in a multivariate two-stage procedure. *Hiroshima Math. J.*, **23**, 565-575.

71. FUJIKOSHI, Y. and YANAI, H. (1993). Recent developments and perspectives in multivariate analysis. *J. Japan Statist. Soc.*, **22**, 313-356 (in Japanese).

72. MUKAIHATA, S. and FUJIKOSHI, Y. (1993). Error bounds for asymptotic expansions of some distributions in a SUR model. *Stat. Sci. & Data Anal.* (K. Matsusita et al., Ed.), 365-374, VSP, Utrecht.

73. FUJIKOSHI, Y. (1993). Error bounds for asymptotic approximations of some distribution functions. *Multivariate Analysis: Future Directions* (C. R. Rao, Ed.), 181-208, North-Holland Publishing Company.

74. SEO, T., MANO, S. and FUJIKOSHI, Y. (1994). A generalized Tukey conjecture for multiple comparisons among mean vectors. *J. Amer. Statist. Asoc.*, **89**, 676-679.

75. OTAKE, M., FUJIKOSHI, Y. et al. (1994). Comparison of numerical results of repeated measurements of height based on two growth–curve models with random-effects and general covariance structures. *J. Japan Statist Soc.*, **24**, 1-14.

76. SEO, T., KANDA, T. and FUJIKOSHI, Y. (1994). The effects on the distributions of sample canonical correlations under nonnormality. *Comm. Statist.-Theory Meth.*, **23**, 2615-2628.

77. SEO, T., KANDA, T. and FUJIKOSHI, Y. (1994). Asymptotic distributions of the sample roots in MANOVA models under nonnormality. *J. Japan Statist. Soc.*, **24**, 133-140.

78. OTAKE, M., FUJIKOSHI, Y. et al. (1994). Evidence of radiation-induced reduction of height and body weight from repeated measurements of adults exposed in childhood to the atomic bombs. *Radiation Research*, **140**, 112-122.

79. FUJIKOSHI, Y. (1994). Error bounds for asymptotic expansions of the distributions of the classification statistic W and related statistics. *New Trends in Probability and Statistics-3*, (E.-M. Titt et al., Ed.), 3-15.

80. FUJIKOSHI, Y. (1995). Siotani's contributions to multivariate statistical analysis. *Amer. J. Math. Manage. Sci.*, **15**, 199–214.

81. SEO, T., KANDA, T. and FUJIKOSHI, Y. (1995). The effects of nonnormality on tests for dimensionality in cononical correlation and MANOVA models. *J. Multivariate Anal.*, **52**, 325-337.

82. FUJIKOSHI, Y. and SATOH, K. (1996). Estimation and model selection in an extended growth curve model. *Hiroshima Math. J.*, **26**, 635-647.

83. FUTAGAMI, K., FUKUNAGA, J., HIRATA, T., SHINNAKA, H. and FUJIKOSHI, Y. (1996). Some optimation problems on countermeasuring for diversification of products - A computational algorithm for the optimum variation of parts in automobile -. *Hiroshima Economic Review.*, **19**, 43-68 (in Japanese).

84. FUJIKOSHI, Y. (1997). A method for improving the large-sample chi-squared approximations to some multivariate test statistics. *Amer. J. Math. Mange. Sci.*, **17**, 15-29.

85. FUJIKOSHI, Y. (1997). An asymptotic expansion of the distribution of Hotelling's T^2-statistic. *J. Multivariate Anal.*, **61**, 187-193.

86. SATOH, K., KOBAYASHI, M. and FUJIKOSHI, Y. (1997). Variable selection on the growth curve model. *J. Multivariate Anal.*, **60**, 277-292.

87. Shimizu, R. and Fujikoshi, Y. (1997). Sharp error bounds for asymptotic expansions of the distribution functions of scale mixtures. *Ann. Inst. Statist. Math.*, **49**, 285-297.

88. Naito, K., Murata, S. and Fujikoshi, Y. (1997). Stability of the multidimensional scaling with an error model. *J. Japan Statist. Soc.*, **27**, 77-91.

89. Fujikoshi, Y. and Satoh, K. (1997). Modified AIC and C_p statistic in multivariate regression models. *Biometrika*, **84**, 707-716.

90. Kanda, T. and Fujikoshi, Y. (1998). Some basic properties of the MLE's for multivariate normal distribution with monotone missing data. *Amer. J. Math. Manage. Sci.*, **18**, 161-190.

91. Fujikoshi, Y. and Seo, T. (1998). Asymptotic approximations for EPMC's of the linear and the quadratic discriminant functions when the samples sizes and the dimension are large. *Random Oper. and Stoch. Equ.*, **6**, 269-280.

92. Otake, M., Fujikoshi, Y. and Lee, S. H. (1998). A heterogeneity test of k canonical correlations and its application. *Journal Japan Comp. Statist.*, **10**, 99-115.

93. Futagami, K., Fukunaga, J., Hirata, T. and Fujikoshi, Y. (1998). An Optimization problem of assembled parts for product variety and its relaxazation. *Transactions of the Japan Society for Industrial and Applied Mathematics*, **8**, 355-372 (in Japanese).

94. Nakayama, T., Naito, K. and Fujikoshi, Y. (1998). Stability of correspondence analysis and its alternative using Hellinger distance for contingency table. *Internal. J. Math. & Statist. Sci.*, **7**, 97-119.

95. Fujikoshi, Y. (1999). Simultaneous confidence intervals in an extended growth curve model. *Comm. Statist.-Theory Meth.*, **28**, 671-682.

96. Fujikoshi, Y. and Seo, T. (1999). Asymptotic expansions for the joint distribution of correlated Hotelling's T^2 statistics under normality. *Comm. Statist.-Theory Meth.*, **28**, 773-778.

97. Ulyanov, V. V., Fujikoshi, Y. and Shimizu, R. (1999). Nonuniform bounds for asymptotic expansions for scale mixtures under mild moment condition. *Journal of Math. Sciences*, **93**, 600-608.

98. Fujikoshi, Y., Kanda, T. and Ohtaki, M. (1999). Growth curve models with hierachikal within-individuals design. *Ann. Inst. Statist. Math.*, **51**, 707-721.

99. Fujikoshi, Y., Ohmae, M. and Yanagihara, H. (1999). Asymptotic approximations of the null distributions of one-way ANOVA test statistic under nonnormality. *J. Japan Statist. Soc.*, **29**, 147-161.

100. Fujikoshi, Y. (2000). Error bound for asymptotic approximations of the linear discriminant function when the sample size and the dimension are large. *J. Multivariate Anal.*, **73**, 1-17.

101. FUJIKOSHI, Y. (2000). Transformations with improved chi-squared approximations. *J. Multivariate Anal.*, **73**, 249-263.

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