

# Curriculum Vitae

## Kalimuthu Krishnamoorthy

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### Education

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Ph.D.(Statistics) March 1985, Indian Institute of Technology-Kanpur, India  
M.Sc (Statistics) May 1978, Madras University, India  
B.Sc (Statistics) May 1976, Madras University, India

### Professional Experience

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2001 – present	Professor of Statistics, Dept of Mathematics, University of Louisiana at Lafayette
1995 – 01	Associate Professor, Dept of Statistics, University of Louisiana at Lafayette
1992 – 95	Assistant Professor, Dept of Statistics, University Louisiana at Lafayette
1991 – 92	Visiting Assistant Professor, Dept of Mathematics and Statistics, University of South Alabama
1988 – 91	Visiting Assistant Professor, Dept of Statistics, Temple University
1986 – 88	Research Associate, Dept of Mathematics and Statistics, Bowling Green State University
1984 – 86	Visiting Scientist, Indian Statistical Institute, New Delhi, India

### Honors

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- 2019: Research Excellence Award for the academic year 2018-2019, UL Lafayette.
- 2015: Outstanding professor, RPA College of Sciences, UL Lafayette.
- 2011: Elected Fellow of the American Statistical Association
- 2012-present: Holder of SLEMCO/LEQSF Professor of Science, UL Lafayette
- 2008-2011: Holder of Philip and Jean Piccione Endowed Professor of Statistics, UL Lafayette.

## Editorial Services

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2008-present: Associate Editor

- Communications in Statistics–Theory and Methods
- Communications in Statistics–Simulation and Computation
- Communications in Statistics–Case Studies and Data Analysis

## Professional Services and Membership

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- 2012-2018: Chapter Representative, Louisiana Chapter of the American Statistical Association
- 2011-2012: President, Louisiana Chapter of the American Statistical Association
- 2010-2011: Vice President, Louisiana Chapter of the American Statistical Association
- 2000-2003: Chapter Representative, Louisiana Chapter of the American Statistical Association
- 1995-1996: Vice President, Louisiana Chapter of the American Statistical Association
- 1996-1997: President, Louisiana Chapter of the American Statistical Association
- 1997-1998: Treasurer, Louisiana Chapter of the American Statistical Association
- Member, American Statistical Association
- Member, Institute of Mathematical Statistics

## Technical Skills

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General skills in statistical computing. Specific expertise and interest in:

- Numerical computations, statistical simulation and Monte Carlo method
- Programming language: Visual C++, Fortran, R
- Statistical Software: Minitab, JMP, IMSL

## Research Areas of Interest

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1. Meta Analysis – Common Mean Problem
2. Calibration, Regression and Tolerance Region
3. Multivariate Statistical Inference (missing data)
4. Small Sample Inference for Discrete Distributions
5. Censored Data Analysis
6. Statistical Problems on Biomarkers and ROC Curves
7. Fiducial Inference
8. Statistical Methods for Assessing Occupational Exposure

## Collaborators

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1995 - 2005	Dr. Elena Mitran; Cardiovascular Institute of Southwest, Lafayette, LA. Modeling exposure data and assessing exposure risks
1997 - 1998	Mitchell Pinckard, Noble Drilling, Lafayette, LA. Modeling drilling data to optimize bit rate of penetration Analyzing occupational exposure data
1996 - present	Thomas Mathew, University of Maryland - Baltimore County Campus, Developing statistical methods for analyzing exposure data.
2005 - 2015	G. Ramachandran, Industrial Hygiene.

## Courses Taught

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- Core courses in Statistics - undergraduate level; Bowling Green State University, Temple University, University of South Alabama and UL Lafayette
- Statistic Courses for Business Students - undergraduate level; Temple University,
- Mathematics to MBA students - graduate level; Temple University
- Matrix Theory Useful for Statisticians - graduate level; Temple University
- Applied Linear Statistical Methods - graduate level; UL Lafayette
- Sampling Theory - undergraduate and graduate levels; Temple University and UL Lafayette
- Applied Multivariate Analysis - graduate level; UL Lafayette
- Mathematical Statistics - graduate level; UL Lafayette
- Advanced Multivariate Analysis - graduate level; UL Lafayette
- Nonparametric Statistical Inferences - graduate level; UL Lafayette
- Stochastic Processes - graduate level; UL Lafayette
- Statistical Computing and Simulation - graduate level; UL Lafayette
- Design and Analysis of Experiments - graduate level; UL Lafayette
- Time Series Analysis - graduate level; UL Lafayette
- Applied Linear Regression - graduate level; UL Lafayette
- Advanced Statistical Inferences - graduate level; UL Lafayette

## Publications (all in peer reviewed journals)

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1. Krishnamoorthy, K. and Lv, S. Hypergeometric distributions: One- and two-sample problems. To appear in *communications in Statistics - Theory and Methods*.
2. Hoang-Nguyen-Thuy, N. and Krishnamoorthy, K. Construction of tolerance intervals for a location-scale family of distributions. To appear in *Computational Statistics*.
3. Waguespack, D., Krishnamoorthy, K. and Lee, M. Tests and Confidence Intervals for the Mean of a Zero-Inflated Poisson Distribution. *American Journal of Mathematical and Management Sciences*. <https://doi.org/10.1080/01966324.2020.1777914>
4. Hoang-Nguyen-Thuy, N. and Krishnamoorthy, K. (2020) Estimation of the probability content in a specified interval using fiducial approach. *Journal of Applied Statistics*. DOI:10.1080/02664763.2020.1768228

5. Krishnamoorthy, K., Nguyen, T. and Sang, Y. (2020). Tests for Comparing Several Two-parameter Exponential Distributions based on Uncensored/Censored Samples. *Journal of Statistical Theory and Applications* 19, 248–260.
6. Krishnamoorthy, K., Waguespack, D. and Ngan, H-N-T (2020). Confidence interval, prediction interval and tolerance limits for a two-parameter Rayleigh distribution. *Journal of Applied Statistics* 47, 160–175. DOI: 10.1080/02664763.2019.1634681
7. Krishnamoorthy, K. and Lv, S. (2020). Prediction intervals for hypergeometric distributions. *Communications in Statistics Theory and Methods* 49, 1528–1536. DOI: 10.1080/03610926.2018.1563181
8. Yu, J., Krishnamoorthy, K. and He, Y. (2020). Testing equality of two normal covariance matrices with monotone missing data. *Communications in Statistics Theory and Methods* 49, 3911–3918. <https://doi.org/10.1080/03610926.2019.15914>
9. Krishnamoorthy, K. and Hasan, S. (2018). Prediction limits for the mean of a sample from a lognormal distribution: Uncensored and censored cases. *Journal of Environmental Statistics*, 8, 1-14.
10. Krishnamoorthy, K. and Lv, S. (2018). Highest posterior mass prediction intervals for binomial and Poisson distributions. *Metrika* 81, 775-796. <https://doi.org/10.1007/s00184-018-0658-z>
11. Hasan, Md. S. and Krishnamoorthy, K. (2018). Confidence intervals for the mean and a percentile based on zero-inflated lognormal data. *Journal of Statistical Simulation and Computation* 88, 1499–1514. DOI: 10.1080/00949655.2018.1439033.
12. Krishnamoorthy, K. and Xia, Y. (2018). Confidence intervals for a two-parameter exponential distribution: One- and two-sample problems. *Communications in Statistics Theory and Methods* 47, 935–952. DOI 10.1080/03610926.2017.1313983.
13. Weerahandi, S. and Krishnamoorthy, K. (2018). A note reconciling ANOVA tests under unequal error variances. *Communications in Statistics Theory and Methods*. DOI: 10.1080/03610926.2017.1419264
14. Krishnamoorthy, K., Lee, M. and Zhang, D. (2017). Closed-form fiducial confidence intervals for some functions of independent binomial parameters with comparisons. *Statistical Methods in Medical Research* 26, 43 - 63. DOI: 10.1177/0962280214537809.
15. Krishnamoorthy, K., and Hasan, Md. S. (2017). Improved confidence intervals for the ratio of coefficients of variation of two lognormal distributions. *Journal of Statistical Theory and Applications* 16, 345–353. PDF
16. Krishnamoorthy, K. and Oral, E. (2017). Standardized LRT for comparing several lognormal means and confidence interval for the common mean. *Statistical Methods in Medical Research* 26, 2919 – 2937. DOI: 10.1177/0962280215615160. PDF
17. Krishnamoorthy, K., and Wang, X. (2016). Fiducial inference on gamma distribution: Uncensored and censored cases. *Environmetrics*. DOI: 10.1002/env.2408
18. Krishnamoorthy, K., Peng, J. and Zhang, D. (2016). Modified large sample confidence intervals for Poisson distributions: Ratio, weighted average and product of means. *Communications in Statistics Theory and Methods*, 45, 83–97.
19. Krishnamoorthy, K. (2016). Modified normal-based approximation for the percentiles of a

- linear combination of independent random variables with applications. *Communications in Statistics-Simulation and Computation*, 45, 2428–2444.
20. Krishnamoorthy, K., Mathew, T. and Peng, J. (2016). A simple method for assessing occupational exposure via the one-way random effects model. *Journal of Occupational and Industrial Hygiene*, 13, 894–903. DOI: 10.1080/15459624.2016.1186803.
  21. Krishnamoorthy, K., Lee, M. and Wang, X. (2015). Likelihood ratio tests for comparing several gamma distributions. *Environmetrics*, 26, 571– 583.
  22. Krishnamoorthy, K. and Zhang, D. (2015). Approximate and fiducial confidence intervals for the difference between two binomial proportions. *Communications in Statistics Theory and Methods* 44, 1745-1759.
  23. Krishnamoorthy, K. and Peng, J. (2015). Approximate one-sided tolerance limits in random effects model and in some mixed models and comparison. *Journal of Statistical Simulation and Computation* 85, 1651-1666.
  24. Krishnamoorthy, K., Mathew, T. and Xu, Z. (2014). Comparison of means of two lognormal distributions based on samples with multiple detection limits. *Journal of Occupational and Environmental Hygiene* 11, 538-546.
  25. Krishnamoorthy, K., Mathew, T. and Xu, Z. (2014). Standardized Likelihood Inference for the Mean and Percentiles of a Lognormal Distribution Based on Samples with Multiple Detection Limits. *Journal of Environmental Statistics*, 6, 1–17.
  26. Krishnamoorthy, K. and Luis, N. (2014). Small sample inference for gamma distributions: one- and two-sample problems. *Environmetrics*, 25, 107–126.
  27. Krishnamoorthy, K. and Lee, M. (2013). Improved tests for the equality of normal coefficients of variation. *Computational Statistics*, 29, 215–232.
  28. Krishnamoorthy, K. (2013). Comparison of confidence intervals for correlation coefficients based on incomplete monotone samples and those based on listwise deletion. *Journal of Multivariate Analysis*, 114, 378–388.
  29. Krishnamoorthy, K. and Mathew, T. and Xu, Z. (2013). Tests for an upper percentile of a lognormal distribution based on samples with multiple detection limits and sample size calculation. *Annals of Occupational Hygiene*, 57, 1200–1212.
  30. Krishnamoorthy, K. and Mathew, T. (2013). The symmetric-range accuracy under a one-way random model with balanced or unbalanced data. *Annals of Occupational Hygiene*, 57, 953-961.
  31. Krishnamoorthy, K. and Lee, M. (2013). New approximate confidence intervals for the difference between two Poisson means and comparison. *Journal of Statistical Simulation and Computation*, 83, 2232–2243. DOI:10.1080/00949655.2012.686616
  32. Krishnamoorthy, K. and Yu, J. (2012). Multivariate Behrens-Fisher problem with missing data. *Journal of Multivariate Analysis*, 105, 141–150.
  33. Krishnamoorthy, K. and Lian, X. (2012). Closed-form approximate tolerance intervals for some general linear models and comparison studies. *Journal of Statistical Computation and Simulation*, 82, 547-563.
  34. Krishnamoorthy, K. and Xu, Z. (2011). Confidence limits for lognormal percentiles and for lognormal mean based on samples with multiple detection limits. *Annals of Occupational*

- Hygiene*, 55, 495–509.
35. Krishnamoorthy, K., Xia, Y. and Xie, F. (2011). A simple approximate procedure for constructing tolerance intervals for binomial and Poisson distributions. *Communications in Statistics -Theory and Methods*, 40, 2443-2458.
  36. Krishnamoorthy, K., Mallick, A. and Mathew, T. (2011). Inference for the lognormal mean and quantiles based on samples with non-detects. *Technometrics*, 53, 72-83.
  37. Krishnamoorthy, K. and Peng, J. (2011) Closed-form approximate tolerance intervals for some general linear models and comparison studies. *Journal of Statistical Planning and Inference*, 141, 1709-1718.
  38. Krishnamoorthy, K. and Xie, F. (2011) Tolerance intervals for symmetric location-scale distributions based on censored or uncensored data. *Journal of Statistical Planning Inference*, 141, 1170-1182.
  39. Krishnamoorthy, K., Lian, X. and Mondal, S. (2011). Tolerance intervals for the distribution of the difference between two independent normal random variables. *Communications in Statistics - Theory and Methods*, 40, 117-129.
  40. Peng, J. and Krishnamoorthy, K. (2011). Conditional and unconditional tests for comparing several poisson means. *Journal of Applied Statistical Sciences*, 18, 1-8.
  41. Krishnamoorthy, K. and Lee, M. (2010). Inference for functions of parameters in discrete distributions based on fiducial approach: binomial and Poisson cases. *Journal of Statistical Planning and Inference*, 140, 1182–1192.
  42. Krishnamoorthy, K. and Lin, Y. (2010). Confidence limits for stressstrength reliability involving Weibull models. *Journal of Statistical Planning and Inference*, 140, 1754–1764.
  43. Lanju Zhang, Thomas Mathew, Harry Yang, K. Krishnamoorthy and Iksung Cho (2010). Tolerance limits for a ratio of normal random Variables. *Journal of Biopharmaceutical Statistics*, 20, 172-184.
  44. Krishnamoorthy, K. and Mathew, T. (2009). Inference on the symmetric-range accuracy. *Annals of Occupational Hygiene*, 53, 167-171.
  45. Krishnamoorthy, K., Mallick, A. and Mathew, T. (2009). Model based imputation approach for data analysis in the presence of non-detectable values. *Annals of Occupational Hygiene*, 59, 249-268.
  46. Krishnamoorthy, K., Lin, Y. and Xia, Y. (2009). Confidence limits and prediction limits for a Weibull distribution. *Journal of Statistical Planning and Inference*, 139, 2675-2684.
  47. Krishnamoorthy, K. and Tian, L. (2008). Inference on the difference and ratio of the means of two inverse Gaussian distributions. *Journal of Statistical Planning and Inference*, 138, 2082–2089.
  48. Krishnamoorthy, K., Mathew, T. and Mukherjee, S. (2008). Normal based methods for a gamma distribution: prediction and tolerance interval and stress-strength reliability. *Technometrics*, 50, 69-78.
  49. Krishnamoorthy, K. and Mondal, S. (2008). Tolerance factors in multiple and multivariate linear regressions. *Communications in Statistics Simulation and Computation*, 37, 546-559.
  50. Krishnamoorthy, K. and Mathew, T. (2008). Statistical Methods for Establishing Equivalency of Several Sampling Devices. *Journal of Occupational and Environmental Hygiene*, 5, 15-21.

51. Krishnamoorthy, K. and Lu, F. (2008). A parametric bootstrap solution to the MANOVA under heteroscedasticity. *Journal of Statistical Computation and Simulation*, 80, 873-887.
52. Krishnamoorthy, K. and Xia, Y. (2008). Sample size calculation for estimating or testing a nonzero multiple correlation coefficient. *Multivariate Behavioral Research*, 43, 382-410.
53. Krishnamoorthy, K. and Peng, J. (2008). Exact properties of a new test and other tests for differences between several binomial proportions. *Journal of Applied Statistical Science*, 16, 23-35.
54. Krishnamoorthy, K. and Peng, J. (2007). Some properties of the exact and score methods for a binomial proportion and sample size calculation. *Communications in Statistics - Simulation and Computation*, 36, 1171-1186.
55. Krishnamoorthy, K. and Yanping Xia (2007). Inferences on correlation coefficients: one-sample, independent and correlated cases. *Journal of Statistical Planning and Inference*, 137, 2362-2379.
56. Krishnamoorthy, K., Mukherjee, S. and Guo, H. (2007). Inference on reliability in two-parameter exponential stress-strength model. *Metrika*, 65, 261-273.
57. Krishnamoorthy, K., Mathew, T. and Ramachandran, G. (2007). Upper limits for the exceedance probabilities in one-way random effects model. *Annals of Occupational Hygiene*, 51, 397-406.
58. Krishnamoorthy, K., Lu, F. and Mathew, T. (2007). A parametric bootstrap approach for ANOVA with unequal variances: fixed and random models. *Computational Statistics and Data Analysis*, 51, 5731-5742.
59. Krishnamoorthy, K. and Mondal, S. (2006). Improved tolerance factors for multivariate normal distributions. *Communications in Statistics - Simulation and Computation*, 25, 461-478.
60. Guo, H. and Krishnamoorthy, K. (2005). Comparison between two quantiles: The normal and exponential cases. *Communications in Statistics - Simulation and Computation*, 34, 243-252.
61. Krishnamoorthy, K. and Xia, Y. (2006). On selecting tests for equality of two normal mean vectors. *Multivariate Behavioral Research*. 41, 533-548.
62. Yu, J., Krishnamoorthy, K. and Pannala, M. K. (2006). Two-sample inference for normal mean vectors based on monotone missing data. *Journal of Multivariate Analysis*, 97, 2162-2176.
63. Cai, Y. and Krishnamoorthy, K. (2006). Exact size and power properties of five tests for multinomial proportions. *Communications in Statistics Simulation and Computation*, 35, 449-460.
64. Cai, Y. and Krishnamoorthy, K. (2005). A simple improved inferential method for some discrete distributions. *Computational Statistics and Data Analysis*, 48, 605-621.
65. Saranadasa, H. and Krishnamoorthy, K. (2005). A multivariate test for similarity of two dissolution profiles. *Journal of Biopharmaceutical Statistics*, 15, 265-278.
66. Krishnamoorthy, K, Mathew, T. and Ramachandran, G. (2005). Generalized p-values and confidence limits: A novel approach for analyzing lognormally distributed exposure data. *Journal of Occupational and Environmental Hygiene*, 3, 252-260.

67. Krishnamoorthy, K. and Guo, H. (2005). Assessing occupational exposure via the one-way random effects model with unbalanced data. *Journal of Statistical Planning and Inference*, 128, 219–229.
68. Krishnamoorthy, K. and Lu, Y. (2005). On combining correlated estimators of the common mean of a multivariate normal distribution. *Journal of Statistical Simulation and Computation*, 75, 333–345.
69. Krishnamoorthy, K. and Lu, Y. (2004). Comparison of five tests for the common mean of several normal populations. *Communication in Statistics – Simulation and Computation*, 33, 431–446.
70. Krishnamoorthy, K. and Mathew, T. (2004). One-Sided tolerance limits in balanced and unbalanced one-way random models based on generalized confidence limits. *Technometrics*, 46, 44–52.
71. Guo, H. and Krishnamoorthy, K. (2004). New approximate inferential methods for the reliability parameter in a stress-strength model: The normal case. *Communication in Statistics – Theory and Methods*, 33, 1715–1731.
72. Krishnamoorthy, K. and Yu, J. (2004). Modified Nel and Van der Merwe test for the multivariate Behrens-Fisher problem. *Statistics & Probability Letters*, 66, 161–169.
73. Krishnamoorthy, K., Thomson, J. and Cai, Y. (2004). An exact method for testing equality of several binomial proportions to a specified standard. *Computational Statistics and Data Analysis*, 45, 697–707.
74. Krishnamoorthy, K. and Thomson, J. (2004). A more powerful test for comparing two Poisson means. *Journal of Statistical Planning and Inference*, 119, 23–35. [one of the most downloaded articles in JSPI]
75. Krishnamoorthy, K. and Mathew, T. (2003). Inferences on the means of lognormal distributions using generalized p-values and generalized confidence intervals. *Journal of Statistical Planning and Inference*, 115, 103 – 121. [one of the most downloaded articles in JSPI]
76. Krishnamoorthy, K. and Lu, Y. (2003). Inferences on the common mean of several normal populations based on the generalized variable method. *Biometrics*, 59, 237–247.
77. Benton, D. and Krishnamoorthy, K. (2003). Computing discrete mixtures of continuous distributions: noncentral chisquare, noncentral t and the distribution of the square of the sample multiple correlation coefficient. *Computational Statistics and Data Analysis*, 43, 249–267.
78. Krishnamoorthy, K. and Mathew, T. (2002). Statistical methods for establishing equivalency of a sampling device to the OSHA standard. *American Industrial Hygiene Association Journal*, 63, 567–571.
79. Krishnamoorthy, K. and Mathew, T. (2002). Assessing occupational exposure via the one-way random effects model. *Journal of Agricultural, Biological and Environmental Statistics*, 7, 440–451.
80. Benton, D., Krishnamoorthy, K. and Mathew, T. (2002). Inferences in multivariate-univariate calibration problems. *The Statistician (JRSS-D)*, 52, 15–39.
81. Krishnamoorthy, K. and Moore, B. (2002). Combining information for prediction in linear regression. *Metrika*, 56, 73–81.

82. Krishnamoorthy, K. and Thomson, J. (2002). Hypothesis testing about proportions in two finite populations. *The American Statistician*, 56, 215–222.
83. Benton, D. and Krishnamoorthy, K. (2002). Performance of the parametric bootstrap method in small sample interval estimates. *Advances and Applications in Statistics*, 2, 269–285.
84. Krishnamoorthy, K., Kulkarni, P. and Mathew, T. (2001). Hypothesis testing in calibration. *Journal of Statistical Planning and Inference*, 93, 211–223.
85. Hao, J. and Krishnamoorthy, K. (2001). Inferences on normal covariance matrix and generalized variance with incomplete data. *Journal of Multivariate Analysis*, 78, 62–82.
86. Krishnamoorthy, K. and Mathew, T. (1999). Comparison of approximation methods for computing tolerance factors for a multivariate normal population. *Technometrics*, 41, 234–249.
87. Krishnamoorthy, K. and Pannala, M. (1999). Confidence estimation of normal mean vector with incomplete data. *The Canadian Journal of Statistics*, 27, 395–407.
88. Krishnamoorthy, K. and Pannala, M. (1998). Some simple test procedures for a normal mean vector with incomplete data. *Annals of the Institute of Statistical Mathematics*, 50, 531–542.
89. Krishnamoorthy, K. and Johnson, D. (1997). Combining independent information in a multivariate calibration problem. *Journal of Multivariate Analysis*, 61, 171–186.
90. Krishnamoorthy, K. and Moore, B. (1997). Combining independent normal sample means by weighting with their standard errors. *Journal of Statistical Computation and Simulation*, 58, 145–153.
91. Johnson, D. and Krishnamoorthy, K. (1996). Combining independent studies in a calibration problem. *Journal of the American Statistical Association*, 91, 1707–1715.
92. Jordan, S. M. and Krishnamoorthy, K. (1996). Exact confidence intervals for the common mean of several normal populations. *Biometrics*, 52, 78–87.
93. Jordan, S. M. and Krishnamoorthy, K. (1995). Confidence regions for the common mean vector of several multivariate normal populations. *The Canadian Journal of Statistics*, 23, 283–297.
94. Jordan, S. M. and Krishnamoorthy, K. (1995). On combining independent tests in linear models. *Statistics & Probability Letters*, 23, 117–122.
95. Krishnamoorthy, K. and Shah, A. K. (1995). Testing equality of several normal means to a specified standard: Four test procedures and their power comparisons. *Journal of Quality Technology*, 27, 132–138.
96. Krishnamoorthy, K. and Pal, N. (1994). Unbiased equivariant estimation of a common normal mean vector with one observation from each population. *Statistics & Probability Letters*, 19, 33–38.
97. Krishnamoorthy, K. and Sarkar, S. K. (1993). Simultaneous estimation of independent normal mean vectors with unknown covariance matrices. *Journal of Multivariate Analysis*, 47, 329–338.
98. Shah, A. K. and Krishnamoorthy, K. (1993). Testing means using hypothesis-dependent variance estimates. *The American Statistician*, 47, 115–117.
99. Krishnamoorthy, K. and Raghavarao, D. (1993). Untruthful answering in repeated random-

- ized response procedures. *The Canadian Journal of Statistics*, 21, 233–236.
100. Krishnamoorthy, K. (1992). On a shrinkage estimator of a normal common mean vector. *Journal of Multivariate Analysis*, 40, 109–114.
  101. Krishnamoorthy, K. (1991). Estimation of a common multivariate normal mean vector. *Annals of the Institute of Statistical Mathematics*, 43, 761–771.
  102. Krishnamoorthy, K. and Rohatgi, V. K. (1990). Unbiased estimation of the common mean of a multivariate normal distribution. *Communications in Statistics – Theory Methods*, 19, 1803–1812.
  103. Krishnamoorthy, K. (1991). Estimation of normal covariance and precision matrices with incomplete data. *Communication in Statistics – Theory Methods*, 20, 757–770.
  104. Gupta, A. K. and Krishnamoorthy, K. (1990). Improved estimators of eigenvalues of  $\Sigma_1 \Sigma_2^{-1}$ . *Statistics and Decisions*, 8, 247–263.
  105. Krishnamoorthy, K. and Gupta, A. K. (1989). Improved minimax estimators of a normal precision matrix. *The Canadian Journal of Statistics*, 17, 91–102.
  106. Krishnamoorthy, K. and Rohatgi, V. K. (1989). Estimation of common mean in a bivariate normal distribution. *Journal of Statistical Computation and Simulation*, 31, 187–194.
  107. Krishnamoorthy, K., Rohatgi, V. K. and Blass, J. (1989). Unbiased estimation in type II censored samples from a one-truncation parameter density. *Communications in Statistics – Theory and Methods*, 18, 1023–1030.
  108. Krishnamoorthy, K. and Rohatgi, (1988). Minimum variance unbiased estimation in some nonregular families. *Communications in Statistics – Theory and Methods*, 17, 3757–3765.
  109. Krishnamoorthy, K. and Mitra, S. K. (1987). Optimal integration of two or three PPS surveys with common sample size  $n > 1$ . *Sankhya*, Ser. B, 49, 283–306. Co-author: Sujit K. Mitra
  110. Krishnamoorthy, K. and Mitra, S. K. (1986). Cost robustness of an algorithm for optimal integration of surveys. *Sankhya*, Ser. B, 48, 233–245.
  111. Sharma, D. and Krishnamoorthy, K. (1986). An identity concerning a Wishart random matrix. *Metrika*, 33, 65–68.
  112. Dhariyal, I. D., Sharma, D. and Krishnamoorthy, K. (1985). Nonexistence of unbiased estimators for ordered parameters. *Statistics*, 16, 89–95.
  113. Sharma, D. and Krishnamoorthy, K. (1985). Improved minimax estimators of normal covariance and precision matrices from incomplete samples. *Calcutta Statistical Association Bulletin*, 34, 23–42.
  114. Sharma, D. and Krishnamoorthy, K. (1985). Empirical Bayes estimators of normal covariance matrix. *Sankhya*, Ser. A, 24, 247–254.
  115. Krishnamoorthy, K. and Sharma, D. (1984). Asymptotic risk comparison of some estimators for bivariate normal covariance matrix. *Tsukuba Journal of Mathematics*, 21, 199–208.
  116. Sharma, D. and Krishnamoorthy, K. (1983). Orthogonal equivariant minimax estimators of bivariate normal covariance matrix and precision matrix. *Calcutta Statistical Association Bulletin*, 32, 23–45.

## Papers Submitted

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1. Dang, B., Krishnamoorthy, K. and Lv, S. Confidence Intervals for a Prevalence based on Capture-Recapture Data.
2. Krishnamoorthy, K. and Lv, S. Binomial and Negative Binomial Distributions: A Compare and Contrast Study.

## Books

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1. *Handbook of Statistical Distributions with Applications*; 2nd edition. (424 pages) Chapman & Hall/CRC Press, Boca Raton, Florida (October 2015).
2. *Handbook of Statistical Distributions with Applications* (376 pages) Chapman & Hall/CRC Press, Boca Raton, Florida (June 2006).
3. *Statistical Tolerance Regions: Theory, Applications and Computation* (464 pages). Co-author: Thomas Mathew. John Wiley (April 2009).

## Statistical Software

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StatCalc 3.0 is a PC calculator that computes probabilities and other table values for more than 35 probability distributions. This is a freeware that accompanies Book 1, and it can be downloaded from my homepage [www.ucs.louisiana.edu/~kxk4695](http://www.ucs.louisiana.edu/~kxk4695)

## Research Grants

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1. Research Award, Summer 1993; University of Louisiana at Lafayette; \$3,900.
2. Research Award, Summer 1994; University of Louisiana at Lafayette; \$3,900.
3. Co-PI. *Statistical Problems in Occupational Safety and Health*. NIH grant funded by the National Institute of Occupational Safety and Occupational Health (NIOSH). \$475,000; R01-OH03628-01A1. May 1, 2000 - April 30, 2004. (50% effort)
4. Co-PI: *Statistical Methodologies for Exposure Assessment*, \$869,409; R01-OH03628-01A1. NIH grant funded by the NIOSH. May 1, 2005 - April 30, 2009. (50% effort)
5. Co-PI: *Statistical Methodology for Industrial Hygiene: Detection Limits, Reference Limits and Measurement Accuracy*, \$1,390,000; 2R01OH003628-07A1. NIH grant funded by the NIOSH. September 1, 2010 - August 31, 2015. (50% effort)

## Patent

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Co-inventor. Title: Method of and system for optimizing rate of penetration in drilling operations. US Patent No. US6155357; European: E21B44/00  
<http://v3.espacenet.com/textdoc?DB=EP0D0C&IDX=US6155357&F=0>

## Ph.D. Students Supervised

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1. Scott M. Jordan. Thesis Title: Interval Estimation and Hypothesis Testing of the Common Mean of Several Normal Populations. Ph.D., Summer 1994.
2. Darren Johnson. Thesis Title: Combining Independent Studies in a Calibration Problem. Ph.D., Summer 1995.
3. Maruthy Pannala. Thesis title: Testing and Confidence Estimation of Normal Mean Vector based on Incomplete Data. Ph.D., Fall 1996.
4. Brett Moore. Thesis Title: On Combining Studies in Linear models: Regression and Calibration. Ph.D. , Spring 1997.
5. Jian Hao. Thesis Title: Inferences for the Normal Covariance Matrix with Incomplete Data. Ph.D., Spring 1999.
6. Denise Benton . Thesis Title: Inference on Univariate-Multivariate Calibration. Ph.D., Spring 2000.
7. Jessica Thomson. Thesis Title: Inferential Procedures for Some Discrete Distributions. Ph.D., Spring 2002.
8. Yong Lu. Thesis Title: Inference on the Common Mean: The Correlated and Uncorrelated Cases. Ph.D., Fall 2003.
9. Huizhen Guo. Thesis Title: Inference on Quantiles of Some Parametric Models. Ph.D., Spring 2004.
10. Yong Cai. Thesis Title: Small Sample Inference for Some Discrete Distributions. Ph.D., Fall 2004.
11. Jianqi Yu. Thesis Title: Inference on the Difference Between Two Normal Mean Vectors: Complete and Incomplete Data Cases. Ph.D., Spring 2005.
12. Yanping Xia<sup>1</sup>. Thesis Title: Inferences on Simple, Multiple and Dependent Correlation Coefficients. Ph.D., Spring 2007.
13. Sumona Mondal. Thesis Title: Constructions of Tolerance Regions for Some Multivariate Linear Models. Ph.D., Spring 2007.
14. Shubhabrata Mukherjee. Thesis Title: Tolerance Limits and Stress-Strength Reliability for Some Continuous Models. Ph.D., Spring 2007.
15. Fei Lu. Thesis Title: ANOVA and MANOVA under heteroscedasticity. Ph.D., Fall 2007.
16. Jie Peng<sup>1</sup>. Thesis Title: Sample Size Calculation and Tests for Binomial and Poisson Distributions. Ph.D., Summer 2008.
17. Avishek Mallick<sup>1</sup>. Thesis Title: Inferential Methods Based on Samples with Nondetects. Ph.D., Spring 2010.
18. Meesook Lee. Thesis Title: Fiducial Inference for Some Discrete Distributions. Spring 2010.
19. Yin Lin. Thesis Title: Generalized Inference for Weibull Distributions. Spring 2010.
20. Xiaodong Lian. Thesis Title: Tolerance Intervals in Some Linear Models. Ph.D., Summer 2011.
21. Zhao Xu. Thesis Title: Tolerance Intervals in Some Linear Models. Ph.D., Summer 2011.
22. Fang Xie. Thesis Title: Tolerance Intervals for Some Discrete and Continuous Distributions. Ph.D., Summer 2012.

23. Dan Zhang. Thesis Title: Inferential Procedures for Some Discrete Distributions. Ph.D., Fall 2013.
24. Xiao Wang. Thesis Title: Inference on Gamma Distribution: Censored and Uncensored Cases. Ph.D., Spring 2017.
25. Md Sazib Hasan. Thesis Title: Inference on Lognormal Distributions Based on Complete, Censored or Zero-Inflated Data. Ph.D., Fall 2019.
26. Shanshan Lv. Thesis Title: Confidence Intervals and Prediction Intervals for Some Discrete Distributions. Ph.D., Fall 2019.
27. Dustin Waguespack. Thesis Title: Inference for Rayleigh Distributions: One- and Two-Sample Cases. Ph.D., Spring 2020. [Statistician, CGI, Lafayette, Louisiana]
28. Ngan Hoang-Nguyen-Thuy Thesis Title: On Construction of Two-Sided Tolerance Intervals and Confidence Intervals for Probability Content. Ph.D., Spring 2020.

#### Current Ph.D. Students

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1. Bo-Anh Dang. Missing Data Analysis.
2. Saptarshi Chakraborty. Tolerance Intervals.

#### Ph.D. Committee Member

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1. Chiahua Ling. Some Results on Normal Parameter Estimation. Spring 1995.
2. Mingchun Lin. Some Results on Loss Estimation for Normal Model with Unknown Variance. Summer 1995.
3. Ching-Hao Chen. A Comparison of Model Selection Methods for Nonnested Normal Linear Models. Spring 1997.
4. Alvard Arazyan. Inferences on the Reliability of a Series System. Spring 2002.
5. Humberto Munoz. Interval Slopes and Twin Slope Arithmetic in Nonsmooth Optimization. Spring 2001.
6. Gitanjali Paul. P-values for Some Bioequivalence Problems. Fall 2004. Dept of Mathematics and Statistics, University of Maryland - Baltimore County Campus.

#### CE Courses/Workshop Offered at National Meetings

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1. **One-day course on Tolerance Intervals: Theory, Applications and Computation** taught at the Joint Statistical Meetings, August 2009, Washington DC. Co-instructor: Thomas Mathew.
2. **ENVR** co-sponsored JSM short course offered at the Joint Statistical Meetings 2012, July 30-August 4. Course Title: Statistical Methodologies for Exposure Data Analysis. Co-instructor: Thomas Mathew.

### Departmental/College Services

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1984 – 86	Colloquium Committee Chairman, Indian Statistical Institute, New Delhi
1994 – 96	Colloquium Committee Chairman, Department of Statistics, UL Lafayette
1992 – 96	All MS and Ph.D. comprehensive committees at the Department of Statistics, UL Lafayette
1997 – present	All Ph.D. comprehensive and oral exam committees of graduate students in statistics concentration at the Dept of Mathematics, UL Lafayette
2001 – present	Member, Hiring Committee
2005 – 06	Tenure and Promotion Committee
2000 – 06; 2008–	Chair, Statistics Committee, UL Lafayette
2013–2016	Chair, Peer Review Committee, College of Sciences
2016–	Member, Peer Review Committee, College of Sciences

### Presentations and Invited Lectures

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1. Optimal integration of two or three PPS surveys with common sample size  $n > 1$ . Statistical Conference, 1985, Banaras Hindu University, India.
2. Orthogonal minimax estimators of normal covariance matrix. Invited Lecture. Indian Statistical Institute, New Delhi, March 1984.
3. Estimation of normal covariance matrix with incomplete data. Invited Lecture. Indian Statistical Institute, New Delhi, March 1984.
4. Decision theoretic results on covariance estimation. Colloquium Presentation, Department of Mathematics and Statistics, Bowling Green State University, January, 1987.
5. Estimation of a common multivariate normal mean vectors. Joint Statistical Meetings, August 1989, Washington DC.
6. Estimation of normal covariance and precision matrices. Colloquium Presentation, Department of Statistics, Temple University, Philadelphia, January, 1991.
7. Simultaneous estimation of independent normal mean vectors with unknown covariance matrices. Joint Statistical Meetings, 1991, Atlanta, Georgia.
8. On a shrinkage estimator of a normal common mean vector. Dept of Mathematics and Statistics, University of South Alabama, Mobile, Alabama, October, 1991.
9. Estimation of common mean of several normal populations. Colloquium Presentation, Dept of Experimental Statistics, Louisiana State University, Baton Rouge, February 1993.
10. Unbiased equivariant estimation of common normal mean vector with one observation from each population. Joint Statistical Meetings, 1993, San Francisco, California.
11. Combining independent studies in a calibration problem. Dept of Mathematics and Statistics, University of South Alabama, Mobile, February 16, 1995.
12. Combining independent studies in a calibration problem. Dept of Mathematics and Statistics, University of West Florida, Pensacola, February 17, 1995.
13. Combining independent studies in a calibration problem. Joint Statistical Meetings, 1995, Orlando, Florida.

14. Inferences on normal mean vector based on incomplete data. Joint Statistical Meetings, 1996, Chicago, Illinois.
15. On computing tolerance factors for a multivariate normal population. Dept of Mathematics and Statistics, University of Maryland - Baltimore County, April 17, 1998. Louisiana Chapter of ASA, April 1999.
16. Inferences on univariate-multivariate calibration. IISA-Conference, New Delhi, India, December 27-29, 2000
17. An improved method for estimating and testing the reliability parameter in the normal case. International conference on Ranking and Selection, Multiple Comparison, Reliability, and their Applications. Chennai, India, December, 28-30, 2002.
18. An improved method for estimating and testing the reliability parameter in the normal case. International conference on Ranking and Selection, Multiple Comparison, Reliability, and their Applications. Cochin, India, January, 1-4, 2003.
19. Inferences based on generalized variable approach. Second Lehmann Symposium, Rice University, Houston, May 19-22, 2004.
20. Model based imputation method for analyzing data below detection limit. International Conference on Mathematical Applications, December 15-17, 2006, Bangkok, Thailand.
21. Statistical frame work for biomonitoring. AIHce 2006, May 13-18, 2006, Chicago, Illinois.
22. ANOVA under unequal variances. ProbStat 2006, June 5-9, 2006, Bratislava, Slovakia.
23. Inferences on correlation coefficients: One-Sample, independent, and correlated cases. JSM, August 6-10, 2006. Seattle, WA. Presented by the co-author Yanping Xia.
24. Inference on reliability in two-parameter exponential stress-strength model. JSM, August 6-10, 2006. Seattle, WA. Presented by the co-author S. Mukherjee.
25. Improved tolerance factors for multivariate normal. JSM, August 6-10, 2006. Seattle, WA. Presented by the co-author S. Mondal.
26. Tolerance regions for a multivariate normal distribution. Joint Statistical Meetings and International Conference on Statistics, Probability and Related Areas. January 2-5, 2007. Cochin, India.
27. Inferences on correlation coefficients: one-sample, independent and correlated cases. International Conference on Matrices and Statistics in Memory of Professor Sujit Kumar Mitra. January 6-7, 2007. Hyderabad, India.
28. Generalized inference with applications. Colloquium talk, February 9, 2007. Dept of Mathematics and Statistics, University of South Florida, Tampa, Florida.
29. A parametric bootstrap approach for ANOVA with unequal variances: Fixed and random models. JSM, August 1-6, 2007, Salt Lake City. Presented by the co-author Fei Lu.
30. Exact properties of a new test and other tests for comparing several binomial proportions. JSM, August 1-6, 2007, Salt Lake City. Presented by the co-author Jie Peng.
31. Inferential procedures based on generalized variable approach with applications. Colloquium talk, October 19, 2007. Dept of Mathematics, University of Mississippi, Oxford, Mississippi.
32. Multivariate Behrens-Fisher problem: Missing and complete data cases. International Conference on Statistical Paradigms: Recent Advances and Reconciliations. January 2-4, 2008. Indian Statistical Institute, Calcutta, India.
33. Generalized inference with applications. Colloquium talk, January 7, 2008. Dept of Mathematics and Statistics, Indian Institute of Technology - Kanpur, India.
34. A unified approach for Weibull analysis. International Conference on Modeling, Computation and Optimization, January 9-10, 2008. Indian Statistical Institute - New Delhi, India.

35. Tolerance limits for the distribution of the difference between two independent normal random variables. JSM, August 3-9, 2008, Denver. Presented by the co-author Sumona Mondal.
36. Normal-Based methods for a gamma distribution: Prediction and tolerance intervals and stress-strength reliability. JSM, August 3-9, 2008, Denver. Presented by the co-author S. Mukherjee.
37. Approximate inferential procedures based on samples with nondetects. JSM, August 3-9, 2008, Denver. Presented by the co-author A. Mallick.
38. Tolerance limits for the ratio of two normal random variables. JSM, August 3-9, 2008, Denver. Presented by the co-author Lanju Zhang.
39. Generalized and Fiducial Inference. ICSA-2011 Applied Statistics Symposium. June 26–29, 2011. New York, NY.
40. Construction of Tolerance Regions with Censored Samples. Midwest Biopharmaceutical Workshop, Muncie, IN. May 23-25, 2011.
41. Confidence Limits for Lognormal Percentiles and Mean based on Samples with Multiple Detection Limits. Fourth Eric Lehmann Symposium, May 9-12, 2011. Rice University, Houston, TX.
42. 9th IOHA International Scientific Conference, Kuala Lumpur, Malaysia, 16-20, September 2012. Presented a talk on Accurate analysis of lognormally distributed exposure data subject to single or multiple detection limits jointly with Thomas Mathew.
43. Invited colloquium talk on “Modified Large Sample Method with Applications” at Dept of Biostatistics, SUNY, Buffalo. April 11, 2013.
44. Joint Statistical Meetings, San Diego, CA. July 28 - Aug 02, 2012. Fiducial Inference for Some Discrete Distributions
45. Dakar International Conference on Recent Developments in Applied Statistics. March 17–20, 2014, Dakar, Senegal. Presented an invited talk on Environmental Data Analysis Using Gamma Distribution.
46. Joint Statistical Meetings, Boston, MA. August 2-7, 2014. Presented a talk on “Small Sample Inference for Gamma Parameters: One- and Two-Sample Problems.”
47. International Conference on Statistics - Theory to Practice, Jimma University, Jimma, Ethiopia. March 15 – 18, 2015. Presented a talk on “Prediction Intervals and Tolerance Intervals for Binomial and Poisson Distributions.”
48. Cameroon International Conference on Recent Developments in Applied Statistics, Yaounde, Cameroun. March 14 – 18, 2016. Presented an invited talk on “Some Statistical Methods for Assessing Environmental/Workplace Contaminants.”
49. The 4th African International Conference on Statistics, Limpopo, South Africa. Botswana. March 20 – 23. Presented an invited talk on “Generalized Fiducial Inference with Applications.”
50. Joint Statistical Meetings, Baltimore, MD. July 29 – Aug 03, 2017. Presented a talk on “Highest Posterior Mass Prediction Intervals for Binomial and Poisson Distributions.”
51. The 5th African International Conference on Statistics, Gaborone, Botswana. March 19 – 22, 2018. Presented a talk on “Fiducial Inference with Applications” as a keynote speaker.
52. The 6th African International Conference on Statistics, Arsi University, Ethiopia. May 27 – 30, 2019. Presented a talk on “Tolerance Intervals: Computation and Applications” as an invited speaker.

References

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