RESUME Karunarathna B. Kulasekera

PERSONAL DATA

Professor
Department of Mathematical Sciences
Clemson University
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EDUCATION

Ph.D., University of Nebraska-Lincoln, 1988, Statistics
M.A., University of New Brunswick, Canada, 1984, Statistics
Postgraduate Diploma, University of Sri Lanka, 1982, Mathematics
B.Sc., University of Sri Lanka, 1979, Mathematics and Statistics

PROFESSIONAL EXPERIENCE

Clemson University, 1999 -, Professor of Mathematical Sciences
Clemson University, 1994-1999, Associate Professor of Mathematical Sciences
Clemson University, 1988-1994, Assistant Professor of Mathematical Sciences

MEMBERSHIPS

Member, American Statistical Association
Member, Institute of Mathematical Statistics

PUBLICATIONS

Refereed Journal Publications

1. K.B. Kulasekera and Dong Ho Park, 1987, "The Class of Better Mean Residual Life at Age t_0," *Microelectronics and Reliability,* 27(4), pp. 725-735.

2. Z. Feng and K.B. Kulasekera, 1991, "Nonparametric Estimation of the Percentile Residual Life Function," *Communications in Statistics-Theory and Methods,* 20(1), pp. 87-105.

3. K.B. Kulasekera, 1991, "Smooth Nonparametric Estimation of Mean Residual Life," *Microelectronics and Reliability,* 31(1), pp. 97-108.

4. K.B. Kulasekera and K.M. Lal Saxena, 1991, "Estimation of Change Point in Failure Rate Models," *Journal of Statistical Planning and Inference,* 29, pp. 111-124.

5. K.B. Kulasekera and David W. Tonkyn, 1992, "A New Discrete Distribution with Applications to Survival, Dispersal and Dispersion," *Communications in Statistics-Simulation and Computation,* 21(2), pp. 499-518.

6. K. Alam and K.B. Kulasekera, 1992, "Truncation Error in the Expansion of the Distribution of a Quadratic Form", *Sankhya (B),* 54(1), pp. 13-23.

7. K. Alam and K.B. Kulasekera, 1993, "A Nonparametric Sequential Selection Procedure," *Sequential Analysis,* 12(3 & 4), pp. 271-288.

8. K. Alam and K.B. Kulasekera, 1993, "Estimation of the Quantile Function of Residual Life Time Distribution," *Journal of Statistical Planning and Inference,* 37(3), pp. 327-338.

9. K.B. Kulasekera, 1994, "Approximate MLE's of the Parameters of a Discrete Weibull Distribution," *Microelectronics and Reliability,* 34, pp. 1185-1188.

10. K. Alam and K.B. Kulasekera, 1994, "On the Error Term in Bahadur's Representation of an Order Statistic," *Communications in Statistics-Theory and Methods,* 23(12), pp. 3361- 3372.

11. K.B. Kulasekera, 1994, "A Bound on the $\mathcal{L}_1$-Error in a Nonparametric Density Estimator with Censored Data," *Statistics & Probability Letters,* 23, pp. 233-238.

12. K.B. Kulasekera and Peter R. Nelson, 1995, "Choosing a Model from Among Four Families of Distributions," (1995). Special Invited Paper for *Recent Advances in Life-Testing and Reliability,* Ed. N. Balakrishnan. pp. 491-504.

13. K.B. Kulasekera, 1995, "Comparison of Regression Curves using Quasi Residuals", *Journal of the American Statistical Association,* 90, pp. 1085-1094.

14. K.B. Kulasekera and W.H. White, 1996, "Estimation of The Survival Function from Censored Data: A Method Based on Total Time on Test," *Communications in Statistics-Simulation and Computation*, 25, pp.189-200.

15. K.B. Kulasekera and J. Wang, 1997, "Smoothing Parameter Selection for Power Optimality in Testing of Regression Curves," *Journal of the American Statistical Association,* 92, pp 500-511.

16. K.B. Kulasekera and J. Wang, 1998, "Bandwidth Selection for Power Optimality in a Test of Equality of Regression Curves," *Statistics & Probability Letters*, 37, pp 287-293.

17. K.B. Kulasekera, 1999, "Crossing Points of Failure Rates," *Communications in Statistics-Theory and Methods*, 28, pp 87-104.

18. K.B. Kulasekera, 1999, "Nonparametric Tests of Equality of Two Regression Curves," *Encyclopedia of Statistical Sciences,* pp 541-546.

19. K.B. Kulasekera, 1999, "Pseudo Residuals and Quasi Residuals," *Encyclopedia of Statistical Sciences,* pp 615-616 & 629-630.

20. J. Wang, J. and K.B. Kulasekera, 1999,"Uniform Convergence Rates of Regression Estimators", Technical Report #670, Department of Mathematical Sciences, Clemson University.

21. K.B. Kulasekera, Calvin L. Williams and Amitha Manatunga, 2000, " Smooth Estimation of the Reliability Function," Accepted for Publication in *Lifetime Data Analysis.*

22. K.B. Kulasekera and J. Wang, 2000, "A Test of Equality of Regression Curves using Gâteaux Scores," Accepted for Publication in *Australian and New Zealand Journal of Statistics.*

23. K.B. Kulasekera, 2000, "Variable Selection by Stepwise Slicing in Nonparametric Regression," Accepted for Publication in *Statistics & Probability Letters.*

24. K.B. Kulasekera and Peter R. Nelson, 2001, "Graphical Methods of Estimation in a Three Parameter Weibull Distribution", Special Invited Paper, Accepted for Publication.

25. K.B. Kulasekera and J. Wang, 2001, "Solutions of Normal Equations in a GAM," Under Revision for Communications in Statistics.

26. K.B. Kulasekera, 2001, "Testing the Equality of Two Regression Surfaces using Projections", Submitted for Publication.

27. K.B. Kulasekera and J. Olaya, 2001, "Variable Selection in Nonparametric Regression," In preparation.

SPONSORED RESEARCH

Funded

1. "Issues in Multidimensional Nonparametric Regression," National Institutes of Health, Principal Investigator, Responsible for $94,268, (1998-2001).

2. "Nonparametric Smoothing Methods in Affordability Studies," Office of Naval Research, Investigator, Responsible for $85,000, (1997-1999).

3. "Nonparametric Tests for Equality of Regression Curves," National Institutes of Health, Principal Investigator, Responsible for $136,193, (1994-1997).

GRADUATE STUDENT ADVISING

Doctoral Students

1. Wang, Jian, "Issues in Nonparametric Regression Testing," December, 1997.
2. Olaya, Javier, "Variable Selection in Nonparametric Regression," August 2000.
3. Lin Wei, "Issues in Nonparametric and Semi-parametric Regression"

Masters Students

1. Z. Feng, (MS) "A Study of a Smooth Nonparametric Estimator of Quantile Residual Life Function,", 1989.
2. A. Arora, (MS) "Sequential Selection Procedure Based on Pairwise Ranking," 1989 (Co-Chair).
3. Ernest A. Walker, (MS) "Estimating a Distribution Function Based on Nomination Samples," 1991.
4. William H. White, (MS) "Estimation of the Survival Function from Censored Data: A Method based on Total Time on Test,",1993.
5. Brian Schulte, (MS) "Change Points in Regression," 1994.
6. Aaron A. Sumner (MS) "Detection of Change Points in Regression," 1996.
7. David Hitchcock (MS) "A New Discrete Distribution", May 1999.

Doctoral Committees

1. J.Y. Song, Electrical Eng.; "Reliability Analysis for Rapidly Re-configurable Networks," 1990.
2. Karen Copeland, Mathematical Sciences, "Statistical Modeling of Chemical Kinetics," 1995.
3. Pedro J. Geoffroy, Statistics, "Poisson Regression for Overdispersed and Correalted Data", 1996.
4. Abraham Chen, Mathematical Sciences, "Tests for a Mixture of Two Normal Distributions," 1997.

TEACHING

Courses Taught (**Beginning Fall 1990**)

1. MTHSC 101, Finite Probability, SU 91, SU 97
2. MTHSC 203, Elementary Statistical Inference, SU 93
3. MTHSC 301, Statistical Theory and Methods I, F-90,91,93,98 SP-93,94,97
4. MTHSC 400, Theory of Probability, F-92,95,96 SP-97
5. MTHSC 403, Introduction to Statistical Theory, SP 92,98
6. MTHSC 405, Statistical Theory and Methods II, F-96,97 SP-96
7. MTHSC 801, Linear Models, F-93
8. MTHSC 806, Nonparametric Statistics, F-91,97
9. MTHSC 807, Applied Multivariate Analysis, F-92
10. MTHSC 808, Reliability and Life Testing,SS I 93, F-94,98
11. MTHSC 881, Mathematical Statistics, F-90 SP-93,94,95,98
12. MTHSC 981, Analysis of Categorical Data, SU 92
13. MTHSC 981, Advanced Statistical Theory (Reading Course), SP -93
14. MTHSC 981, Smoothing Methods (Reading Course), F-95

New Course Development

1. Developed and taught a Probability and Statistics (301) course specially for Computer Science majors at request from Department of Computer Science-1990 Spring.
2. Developed the course MTHSC 981, Analysis of Categorical Data, as an advanced graduate level course for senior graduate students in 1992. This had a mixture of theory and applications. SAS was used in various data analysis projects. The text was supplemented by: Discrete Multivariate Analysis by Bishop, Fineberg and Holland.
3. Reading course MTHSC 981, Advanced Statistical Theory, was designed for a student who was preparing for the fourth departmental examination. About five chapters from the book were read with some omissions, and many details in classical estimation theory were discussed.
4. Reading course MTHSC 981, Smoothing Methods, was designed for a student who was planning on getting a doctorate. A few of the latest papers and a few chapters from a text was covered.
5. Developed an experimental breadth course in statistics (Mthsc 981) for the graduate students in Mathematical Sciences with two colleagues.
6. Developed a graduate service course in statistics (Mthsc 981) for the graduate students in Engineering and Sciences with two colleagues.

UNIVERSITY AND PUBLIC SERVICE

Committees

1. Chair, Search committee for statistics position: 2000
2. Chair, Search committee for statistics position: 1998
3. Committee on SACS accreditation: 1998
4. Co-Adviser of new Statistics Graduate Students:1992-1993, 1996-present
5. Adviser of all new Statistics graduate students:1993-1995
6. Local arrangements coordinator for ASA chapter activities: 1993-1994
7. Chairman of the Departmental Research Committee: 1992,1993
8. Representative to Departmental Graduate Affairs committee: 1995,1996,1998
9. Representative to Departmental Research committee: 1992,1993

10. Committee on Statistics courses for undergraduate Math majors: 1994
11. Committee on Graduate Courses in Statistics: 1995
12. Preliminary Examination Committee: 1989-present
13. Management Science Comprehensive Examination Committee: 1990-present
14. Coordinator, Annual joint colloquium series with the University of Georgia: 1993,1994

MISCELLANEOUS

Book Reviews

1. "Reliability Improvement with Design of Experiments", 1995, *Journal of the American Statistical Association*, pg. 397.

Refereeing

Refereed research papers for

1. Annals of Statistics
2. Journal of the American Statistical Association
3. Technometrics
4. IEEE Transactions in Reliability
5. Journal of Quality Technology
6. Journal of Statistical Computation and Simulation
7. Journal of Nonparametric Statistics
8. Institute of Statistical Mathematics
9. Statistics and Probability Letters
10. Communications in Statistics-Theory and Methods
11. Electronics and Telecomunications Research Institute

Proposal Reviews

1. Invited Member of the Review Panel for Statistics, National Institutes of Health, 1998.
2. "Multipredictor Function Estimation," 1997, National Science Foundation.
3. "Computer Simulation and Analysis of System Availability and Effectiveness," 1995, Lousiana Board of Regents and NSF.

References

1. Professor Shyamal D. Peddada
   National Institute of Environmental Health Sciences
   111 Alexander Drive, Building 101
   Research Triangle Park, NC 27709
   919-541-1122

2. Professor William J. Padgett
   Chairman
   Department of Statistics
   University of South Carolina
   Columbia, SC 29208-0001
   803-777-5070

3. Professor James S. Marron
   Department of Statistics
   University of North Carolina
   Chapel Hill, NC 27599
   919-962-2188

4. Professor Peter R. Nelson
   Department of Mathematical Sciences
   Clemson University
   Clemson, SC 29634
   864-656-2882

5. Professor K.M. Lal Saxena
   Department of Mathematics and Statistics
   University of Nebraska
   Lincoln, NE 68588
   402-472-7242

6. Dr. Clive Loader
   Rm. 2C-279
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   Lucent Technologies
   700 Mountain Av.
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