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MAJOR EMPLOYMENT EXPERIENCE

CURRENT POSITION:

Professor of Statistics (1993 -)
CBA Foundation Advisory Council Centennial Fellowship #4

PREVIOUS POSITIONS:

Co-Director, Center for Statistical Sciences (1990 - 2001)
Associate Professor of Statistics (1982-93)
Department of MSIS, Univ Texas at Austin
Research Scientist (1981-87)
Applied Research Laboratories, Austin
Assistant Professor of Statistics (1979-82)
Department of General Business, Univ Texas at Austin
Visiting Assistant Professor of Statistics (1978-79)
Departments of Mathematics & General Business, Univ Texas at Austin
Assistant Professor of Statistics (1973-78)
Department of Statistics, Stanford University

Also:

Visiting Professor, Thammasat University, Bangkok, Thailand (part of 1993, 95, 97, 99-01, 03, 05, 08)
Visiting Associate Professor (summer, 1983), School of Education, Stanford University
Visiting Scholar (summer, 1979 & 1980), Stanford University
Trumpet player, (1969-70), 60th U.S. Army Band

EDUCATION

PhD in statistics (University of Iowa, 1973)
MS in statistics (University of Iowa, 1971)
BA in mathematics and economics (University of Iowa, 1968)
Summa cum laude and *With Honors*

PUBLICATIONS

1. "Consistency in nonparametric estimation of the mode," (1975) *Annals of Statistics*, **3**, 698-706.

2. "Relating spatial distributions of pollutants to health effects," (1976) *Proceedings of the Ninth International Biometric Conference II*; 35-58. The Biometric Society, Raleigh, N.C.

3. "Estimation of a multivariate mode," (1978) *Annals of Statistics*, **6**, 802-812.

4. "A new approach to regression in certain time/space series problems," (1978) *Time Series and Ecological Processes*, 265-278. The Society for Industrial and Applied Mathematics, Philadelphia, PA.

5. "An iterative method for estimating a multivariate mode and isopleth," (1979) *Journal of the American Statistical Association*, **74**, 329-339.

6. "Maximum likelihood estimation of isotonic modal regression" (with Prof. Ron Thisted of Univ. of Chicago), (1982) *Annals of Statistics*, **10**, 690-707.

7. "Nonparametric maximum likelihood estimation of spatial patterns," (1982) *Annals of Statistics*, **10**, 1125-1136.

8. "Estimating modes and isopleths," (1983) *Communications in Statistics*, **A12**, 529-557. [Invited.]

9. "Searching for and exploiting structure in higher dimensional density estimation," (1986) *Classification as a Tool of Research* (Ed. W. Gaul and M. Schader), 389-396, North-Holland, [refereed].

10. "An isopleth method for mapping multidimensional distributions," (1986) *Statistical Image Processing and Graphics* (Ed. E. Wegman and D. DePriest), 307-319, Marcel Dekker, [refereed].

11. "An application of isotonic regression to multivariate density estimation," (1986) *Advances in Order-Restricted Statistical Inference*, Springer-Verlag, 69-90.

12. "Characterization of a ranked-set sample with application to estimating distribution functions" (with Prof. Lynne Stokes), (1988) *Journal of the American Statistical Association*, **83**, 374-381.

13. "Statistical profile estimation in database systems" (with Prof. Mike Mannino and Prof. P.C. Chu), (1988) *ACM Computing Surveys*, **20**, 191-221.

14. "A surface response analysis of ozone and its precursors" (with Dr. M.W. Hemphill), (1988), paper 88-44.1. *Proceedings of Air Pollution Control Association*.

15. "Statewide ozone trends - Texas" (with Dr. M.W. Hemphill and James P. Gise), (1988), paper 88-45.7. *Proceedings of Air Pollution Control Association*.

16. "On the reliability of NMOC measurements for ozone modeling" (with Alfredo Vaquiax and Dr. M.W. Hemphill), (1988), paper 88-66.9. *Proceedings of Air Pollution Control Association*.

17. "Table for the asymptotic distribution of univariate mode estimators" (with Prof. A. Narayanan), (1989) *Journal of Statistical Computation and Simulation*, **33**, 37-51.

18. "Statistical assumptions matter in data analysis for Texas ozone non-attainment sites" (with Dr. M.W. Hemphill and Alfredo Vaquiax), (1990) *Journal of Air and Waste Management Association* (formerly *Journal of the Air Pollution Control Association*), **40**, 199-205.

19. "A comparison of two approaches to classification of air pollution data" (with Prof. A. Narayanan), (1990), *Journal of Official Statistics*, **5**, 375-389.

20. "Importance of NOx control suggested by NMOC-NOx-Ozone data analysis" (with Dr. Robert McAllister, James P. Gise, and Dr. M.W. Hemphill), (1991), paper 91-75.1. *Proceedings of Air and Waste Management Association*.

21. "Identification of ozone trends masked by effects of weather and seasonal variations - a Houston case study" (with James P. Gise and Dr. M.W. Hemphill), (1991), paper 91-66.6. *Proceedings of Air and Waste Management Association*.

22. "Are the Federal sentencing guidelines meeting Congressional goals? An empirical and case law analysis" (with Theresa Walker Karle), (1991). *Emory Law Journal*, **40**, 393-444.

23. "Nearest neighbor hot-deck imputation for missing values with SAS/IML" (with J.P. Gise and Dr. M.W. Hemphill), (1991), *Proceedings of South Central SAS Regional Conference*, 189-197.

24. "Factor analysis of trends in acidic deposition in Texas" (with C. Kessler, Dr. T. Porter, Dr. D. Firth, Dr. M.W. Hemphill), (June, 1992), *Atmospheric Environment*.

25. "Comparing nonmethane organic compounds, NOx, and daily maximum ozone concentrations by site and by year" (with Dr. R. McAllister, P. O'Hara, J. Robbins), (1992), paper 92-85.01. *Proceedings of Air and Waste Management Association*.

26. "Adaptive algorithmic response surface estimation" (with Dr. M.W. Hemphill), (1992), *Proceedings of South Central SAS Regional Conference*, 252-266.

27. "Site redundancy in urban ozone monitoring" (with Alison Miller), (1994) *Journal of Air and Waste Management Association*, **44**, 1097-1102.

28. "The mode of a beta distribution and its uses in industrial applications" (with Prof. A. Narayanan), (1993) *Journal of Air and Waste Management Association*.

29. "Analysis of potential integrated exposure over threshold: 15 Houston sites," (with Prof. Edward George and Elizabeth Murff), (1995*) Proceedings of Air and Waste Management Association Annual Meeting*, 95-TA43.01.

30. "Ambient ozone exposure on the micro scale," (with Alison Miller-Gonzalez and J. Patrick King), (1995) *Proceedings of Air and Waste Management Association Annual Meeting*, 95-WA84A.5.

31. "Assessing network optimization in Houston: concepts and measures," (1995) *Proceedings of Air and Waste Management Association Annual Meeting*, 95-WP82.02.

32. “Temporal and geographical statistical modeling: A new paradigm“ (with Dr. M.W. Hemphill), (1996) *Proceedings of SAS Users Group International 21st Annual Conference*, 1327-35. [invited]

33. "SAS/GIS and SAS/SPECTRAVIEW for Visualization-Driven Analysis: An application supporting ambient ozone control policy" (with Dr. M.W. Hemphill), (1996) *Proceedings of 6th Annual South-Central Regional SAS Users' Group Conference*.

34. "Applying the SAS System for Visual-Driven Analysis to the support of ambient ozone control policy" (with Dr. M. W. Hemphill), (1996) *Proceedings of A&WMA Computing in Environmental Resource Management Conference*.

35. “Estimation of the CDF of a finite population in the presence of a calibration sample” (with Dr. Ming Luo and Prof. Lynne Stokes), (1997) *Journal of Environmental and Ecological Statistics*, 346-352.

36. "Industry segmentation and predictor motifs for solvency analysis of the life/health insurance industry," (with Prof. Etti Baranoff and the late Prof. Robert C. Witt), (1999) *Journal of Risk and Insurance*, **66**, 99-123.

37. "A semiparametric regression approach to adjusting for meteorological variables in air pollution" (with Prof. Thomas Shively), (1999) *Environmental Science and Technology*, 3873-3880.

38. "A semiparametric stochastic spline model as a managerial tool for potential insolvency," (with Prof. Etti Baranoff and Prof. Thomas Shively), (2000) *Journal of Risk and Insurance*, **67**, 369-396.

39. "Nonuniform regulatory treatment of broker distribution systems: An impact analysis for life insurers," (with Prof. Etti Baranoff and Dalit Baranoff), (2000) *Journal of Insurance Regulation*, **19(1)**, 94-129.

40. "Claims for glandular supplements still unsubstantiated," (with Dr. D. R. Davis, Dr. S. Senn, Dr. D. Altman, Dr. C. McDonald) [letter] (2001) *Journal of Applied Nutrition*, **51**, 106-110.

41. "The relationship between asset risk, product risk, and capital in the life insurance industry," (with Prof. Etti Baranoff), (2002) *Journal of Banking and Finance*, **26**, 1181-1197.

42. “The relations among organizational and distribution forms and capital and asset risk structures in the life insurance industry,” (with Prof. Etti Baranoff), (2003) *Journal of Risk and Insurance*, **70(3)**, 375-400.

43. “What’s running life insurers’ asset allocation decisions? Regulation, financial rating, owners/manager conflicts or other determinants?” (with Prof. Etti Baranoff), *Seminar Proceedings of the International Insurance Society, Inc.* - Volume 2004, July, 2004, 113-127 – [winner of the $3,000 Shin Prize].

44. “The relative efficiency of ranked set sampling in ordinary least squares regression”, (with Prof. Elizabeth Murff), *Environmental and Ecological Statistics* **13:1**, 41-51, March, 2006.

45. “Integrated risk management in life insurance companies,” (with Prof. Etti Baranoff), *The Geneva Papers on Risk and Insurance – Issues and Practice* [Special Issue] 29-53, July, 2006 [winner of the $10,000 Shin Research Excellence Award for insurance scholarship].

46. “Capital and risk revisited: A structural equation model approach for life insurers,” (with Prof. Etti Baranoff and Dr. Savas Papadopoulos), *Journal of Risk and Insurance* **74:3** 653-681, Sept, 2007.

47. “Patents, venture capital, and software start-ups,” (with Prof. Ronald Mann), *Research Policy* **36:2** 193-208, 2007.

48. “Valuable patents redux: On the enduring merit of using patent characteristics to identify valuable patents,” (with Prof. John Allison), *Texas Law Review* **85:7** 1769-1797, 2007.

49. "Boronic acid based peptidic receptors for pattern-based saccharide sensing in neutral aqueous media, an application in real life samples," (with Dr. Nicola Y. Edwards, Prof. John T. McDevitt, and Prof. Eric V. Anslyn). *Journal of the American Chemical Society*, 2007, **129**, 13575-13583.

50. "Mortgage backed securities and capital of life insurers: Was the industry prepared for the credit crunch of 2007-2008?" (with Prof. Etti Baranoff), *The Geneva Papers on Risk and Insurance – Issues and Practice* [Special Issue] 3-23, July, 2008 [winner of the $10,000 Shin Prize for research excellence in insurance scholarship].

51. "Market discipline in life insurance: insureds' reaction to rating downgrades in the context of enterprise risks," (with Prof. Etti Baranoff), *Proceedings of the 35th Seminar of the European Group of Risk and Insurance Economics* (pub. in assoc. with The Geneva Association) **347**, October, 2008

52. "A Bayesian approach to non-parametric monotone function estimation," (with Prof. Thomas S. Shively and Prof. Stephen Walker), 2009, *Journal of the Royal Statistical Society, Series B* **71:1** 159-175.

53. "An empirical map of enterprise risk space for life insurers: Implications for ERM," (with Prof. Etti Baranoff), 2009, *Society of Actuaries 2009 Enterprise Risk Management Proceedings*.

54. "The impact of mortgage-backed securities on capital requirements of life insurers in the financial crisis of 2007–2008," (with Prof. Etti Baranoff), 2009, *The Geneva Papers on Risk and Insurance – Issues and Practice* **34**, 100-118 [selected by the editors of *The Geneva Papers* as one of the 12 best recent papers in the journal: see http://www.palgrave-journals.com/gpp/free_articles.html]

55. "Do life insurers' asset allocation strategies influence performance within the enterprise risk framework?" (with Prof. Etti Baranoff), 2009, *The Geneva Papers on Risk and Insurance – Issues and Practice* **34**, 242-259.

56. "Kolmogorov-Smirnov Tests", signed article for *Encyclopedia of Research Design*, June 2010, Sage Publications.

57. "The interplay between insurers' financial and asset risks during the crisis of 2007–2009", (with Prof. Etti Baranoff), 2011, *The Geneva Papers on Risk and Insurance – Issues and Practice* **36**, 38-379.

58. "Capital and risk interrelationships in the life and health insurance industries: Theories and applications," (with Prof. Etti Baranoff and Prof. Bo Shi), August, 2012 [to appear in *The Handbook of Insurance*, 2013]

59. "Operational, legal and tax issues in life settlement transactions", (with Prof. Bruce Evans and Prof. David Russell), (Dec, 2013) [to appear in the *Journal of Insurance Regulation*]

62 abstracts for *Mathematical Reviews*.

<u>In preparation or submitted:</u>

60. "Market discipline in life insurance: Insureds' reaction to rating downgrades in the context of enterprise risks", (with Prof. Etti Baranoff), (Jan, 2008) [under revision for *Journal of Money Credit and Banking*].

61. "Is the U.S. life insurance industry in danger of systemic risk by using derivative hedging?", (with Prof. Etti Baranoff, Prof. Patrick Brockett, and Bo Shi), (Nov, 2011)

62. "Modeling Prepayment for Mortgage-Backed Securities in Korea" (with Soo Jeong Hong) December, 2013

63. "Surrenders in the life insurance industry: A systemic risk of runs?" (with Prof. Etti Baranoff and Daniel Haefeli), 2013.

64. "Implications for U.S. health insurers of future growth in the age 65+ population," (with Prof. Eti Baranoff, Prof. Bo Shi), August, 2012

65. "Capital ratio, product risk and asset risk relationships in the U.S. health insurance industry" (with Prof. Etti Baranoff and Bo Shi) September, 2010.

66. "Variable annuities with guaranteed living benefits and mortgage backed securities: A capital crisis for life insurers?" (with Prof. Etti Baranoff and Bo Shi), August, 2009

67. "Market discipline during the financial crisis of 2007-2009: Impact of mortgage backed securities on the demand for life insurance" (with Prof. Etti Baranoff), [under revision], 2009

68. "Rebalancing target capital in the financial sector: The case of life insurance", (with Prof. Etti Baranoff and Prof. Thomas Shively), [under revision] (Dec, 2007).

69. "Life insurers' asset allocation dynamics and performance", (with Prof. Etti Baranoff), [first draft and PowerPoint presentation – has been vetted at ARIA conference in Chicago]

70. "Identification and estimation in nonparametric simultaneous equation models", (with Prof. Thomas S. Shively) [Progress – theory 75% complete; software 75% complete (5000 lines of code – last revised February 2006); paper still to be written; (target journal: *Journal of Econometrics*).

71. "Marking capital to market for non-publicly traded companies: A life insurance industry case study", (with Liyan Zhao and Prof. Etti Baranoff), (March, 2007) [under revision].

Technical Reports

"Consistency in nonparametric estimation of the mode," Technical Report No. 29, (August, 1973) University of Iowa. Sponsoring agency: National Science Foundation.

"An iterative method for estimating a multivariate mode and isopleth," Technical Report No. 105, (1975) Stanford University. Sponsoring agency: National Science Foundation.

"Estimation of a multivariate mode," Technical Report No. 106, (1975) Stanford University. Sponsoring agency: National Science Foundation.

"Relating spatial distributions of pollutants to health effects," Technical Report No. 1, (July, 1976) Stanford University. Sponsoring agency: SIMS.

"A new approach to regression in certain time/space series problems," Technical Report No. 1, (October, 1977) Stanford University. Sponsoring agency: SIMS.

"Isotonic modal regression," (with Prof. Ronald Thisted of U. of Chicago) Technical Report No. 142, (Feb, 1979) Stanford University. Sponsoring agency: National Science Foundation.

"Nonparametric maximum likelihood estimation of spatial patterns," Technical Report No. 29, (October, 1979) Stanford University. Sponsoring agency: SIMS.

"Searching for and exploiting structure in higher dimensional density estimation," (August, 1985) Technical Report No. 18, Center for Statistical Sciences, University of Texas.

"An application of isotonic regression to multivariate density estimation," (April, 1986) Technical Report No. 31, Center for Statistical Sciences, University of Texas.

"Characterization of a ranked set sample with application to estimating distribution functions," (with Prof. Lynne Stokes) Technical Report No. 45, (September, 1986) Center for Statistical Sciences, University of Texas.

"On ranked-set sampling with judgment error," (with Prof. Lynne Stokes) Technical Report No. 53, (September, 1987) Center for Statistical Sciences, University of Texas.

"Statistical assumptions matter in data analysis for Texas ozone non-attainment sites," (with Dr. M.W. Hemphill and Alfredo Vaquiax) (October, 1987) Center for Statistical Sciences, University of Texas.

SELECTED INVITED PRESENTATIONS

"Relating spatial distributions of pollutants to health effects," August, 1976. Boston, Massachusetts. Ninth International Biometrics Conference.

"A new approach to regression in certain time/space series problems," June, 1977. Alta, Utah. SIMS Research Application Conference on Ecology and Time Series.

"Statistical issues in air pollution assessment," November 15, 1977. IBM Scientific Center, Palo Alto, CA. APAP Workshop, Nov 14-18,1977.

"Statistical issues in air pollution assessment," November 30, 1977. San Jose State University. Department of Meteorology Seminar.

"Statistics, air pollution and health," April 20, 1978. University of Washington. Department of Biostatistics Seminar.

"Isotonic regression in the regression setting," May 16, 1978. University of California, Berkeley. Stanford-Berkeley Joint Colloquium in Statistics.

"Statistical issues in air pollution research," November 21, 1978. Austin chapter of American Statistical Association.

"Maximum likelihood estimation of spatial patterns," July 26, 1979. Stanford University.

"Isotonic regression and geography," April 13, 1981. University of Iowa. Conference on Order-Restricted Statistical Inference, April 12-16, 1981.

"Elliptical contour plotting," August, 1981. Applied Research Laboratories, Austin. ONR Project Review.

"Some thoughts on the difficulties of multivariate density estimation," May 25, 1982. Applied Research Laboratories, Austin. ONR Project Review.

"An isopleth method for mapping multidimensional distributions," May, 1983. Statistical Image Processing and Graphics Workshop, Luray, Virginia.

"Demonstration of the microcomputer statistical packages MSUSTAT and STATPRO," March 22, 1984. Austin Chapter of American Statistical Association.

"Dimensionality reduction in density estimation", SREB/ASA Summer Research Conference in Statistics, June 13, 1984. Arkadelphia, Arkansas.

"Searching for and exploiting structure in higher dimensional density estimation," Ninth Annual Meeting of German Classification Society, June 27, 1985. University of Karlsruhe, West Germany.

"Applications of isotonic regression to multivariate density estimation," Order Restricted Inference Conference, September 11, 1985. University of Iowa.

"State-wide ozone trends" (with Jim Gise, Bruce Broberg, and Dr. M.W. Hemphill), Annual meeting of Air Pollution Control Association, June, 1988. Dallas.

"A surface response analysis of ozone and its precursors" (with Dr. M.W. Hemphill), Annual meeting of Air Pollution Control Association. June, 1988. Dallas.

"The Center for Statistical Sciences and Quality Control," Austin chapter of American Society for Quality Control, May 12, 1989. Austin.

"Statistical analysis of the impact of weather on ozone in Houston," Texas Air Control Board, September 12, 1989. Austin.

"Linking academic statistics with industry," Society of Manufacturing Engineers, November 16, 1989. Austin.

"Progress in understanding the statistics of Houston ozone," Texas Air Control Board, April 17, 1990. Austin.

"Houston ozone follows an AR(1) model," Texas Air Control Board, August 9, 1990. Austin.

"Analysis of precursor relationships to ozone; State and Houston area ozone trends," Ambient monitoring and data analysis issues workshop for industry, government, and academia, March 13, 1991. Rice University.

"Identification of ozone trends masked by effects of weather and seasonal variations - a Houston case study," Annual meeting of Air and Waste Management Association. June, 1991. Vancouver, Canada.

"Spatial statistics in environmental problems," January, 1993, Sematech, Austin.

"Universal numerical algorithm for mapping environmental indicators and trends," December, 1993, Environmental Protection Agency/Oregon State, Corvallis, Oregon.
"Environmental program building -- the Texas air experience," with (James P. Gise and Dr. M.W. Hemphill), Rice University, February 21, 1994.
"Analysis of potential integrated exposure over threshold: 15 Houston sites," Annual Meeting of Air and Waste Management Association, San Antonio, Texas, June 20, 1995.
"Ambient ozone exposure on the micro scale," Annual Meeting of Air and Waste Management Association, San Antonio, Texas, June 21, 1995.
"Assessing network optimization in Houston: concepts and measures," Annual Meeting of Air and Waste Management Association, San Antonio, Texas, June 21, 1995.
"Temporal and geographical statistical modeling," SAS Users Group International 21st Annual Conference, Chicago, March 12, 1996.
NISS/EPA Workshop panel discussion on priorities and feasible approaches to setting air quality standards, Research Triangle Park, September 18-19, 1996.
"Air pollution policy and the utility of statistics," American Statistical Association and American Society for Quality Control chapter meeting, San Antonio, January 14, 1997.
"Ozone trends: Adjusting for meteorology, " Photochemical Air Monitoring System Workshop, TNRCC, Austin (with Professor Thomas Shively), April 18, 1997.
"Life Risk-Based-Capital reviewed through the lens of transaction-cost economics: Should There Be Equal Treatment for Different Specialties?," (with Prof. Etti Baranoff), Risk Theory Society, Athens, Georgia, April, 17-19, 1998.
"Managing capital structure: the case of life insurers – a semiparametric simultaneous equations approach", (with Prof. Etti Baranoff and Prof. Thomas Shively), paper presented at the annual meeting of the Risk Theory Society, April 2004, New York.
"What's running life insurers' asset allocation decisions? Regulation, financial rating, owners/manager conflicts or other determinants?" (with Prof. Etti Baranoff), paper presented at annual meeting of International Insurance Society, July, 2004, London.
"Integrated risk management in life insurance companies," (with Prof. Etti Baranoff), paper presented at annual meeting of International Insurance Society, July, 2006 [winner of the $10,000 Shin Research Excellence Award for insurance scholarship].
"In Praise of Monetary Unit Sampling," Austin chapter of American Statistical Association, October 5, 2006.
"Money for nothing, or the magic of ranked-set sampling", invited paper at Conference of Texas Statisticians at Baylor University, March 31, 2007.
"Mortgage backed securities and capital of life insurers: Was the industry prepared for the credit crunch of 2007-2008?" (with Prof. Etti Baranoff), invited paper presented at IIS (International Insurance Society) annual meeting, July 2008, in Taipei, Taiwan [won $10,000 Shin Prize for research excellence in insurance scholarship]
"Is the U.S. life insurance industry in danger of systemic risk by using hedging derivatives?" (with Prof. Etti Baranoff, Prof. Patrick Brockett, and Bo Shi), paper presented at American Risk and Insurance Association, session on Systemic Risk, San Diego, August, 2011

Selected Other Conferences and Contributed Papers

- "Consistency in nonparametric estimation of the mode," May, 1973. Albuquerque, New Mexico. Regional IMS meeting.
- Joint national meetings of IMS and ASA, August, 1974. St. Louis, MO.
- Conference on Medical Aspects of Pollution, December, 1974. San Francisco, CA.
- Joint regional meetings of IMS and ASA, June 13-17, 1976. Stanford, CA.
- Air Quality Assurance Conference, May, 1976. Air Quality Control Association. Berkeley, CA.
- LIRAQ Workshop on computer modeling of air pollution distributions, Feb 23-25, 1977. Berkeley, CA.
- NSF Summer Conference on Quantile Processes, July, 1981. National Science Foundation. Texas A & M University.

- Conference of Texas Statisticians, April 22-23, 1983. Baylor University.
- Conference of Texas Statisticians, April 1984. Baylor University.
- GLIM Conference, July, 1984. University of Texas.
- Institute for Mathematical Statistics Central Regional Meeting and Conference of Texas Statisticians, March 28-30, 1985. University of Texas. (Chaired session on order-restricted inference).
- Conference of Texas Statisticians, April 8-9, 1988. Baylor University. (Organized and chaired April 9 session).
- Conference of Texas Statisticians, April, 1989. Trinity University.
- Conference of Texas Statisticians, March, 1990. Rice University.
- Conference of Texas Statisticians, April 19-20, 1991. Dallas.
- Conference of Texas Statisticians, February 28, 1992. Dallas.
- Conference of Texas Statisticians, April 2-3, 1993. Austin.
- "Solvency Surveillance For The Life and Health Insurance Industry: A Disaggregated and Cascaded Approach," (with Dr.. Etti Baranoff and Prof. Robert C. Witt), paper presented at American Risk and Insurance Asoociation annual meeting, August 1993, in San Francisco.
- Conference of Texas Statisticians, April 29-30, 1994, College Station.
- "Investment risk and warning signals for life/health insurance companies," (with Prof. Etti Baranoff and Prof. Robert C. Witt), paper presented at Financial Management Association meeting, 1995, in New York City.
- Conference of Texas Statisticians, April 7-8, 1995, Trinity University
- Conference of Texas Statisticians, April 4-5, 1996, SFA College, Nacogdoches
- "SAS/GIS and SAS/SPECTRAVIEW for Visualization-Driven Analysis: An application supporting ambient ozone control policy" 6th Annual South-Central Regional SAS Users' Group Conference, Austin, October 29, 1996.
- "Applying the SAS System for Visual-Driven Analysis to the support of ambient ozone control policy" A&WMA Computing in Environmental Resource Management Conference, Research Triangle Park, North Carolina, December 3, 1996.
- Conference of Texas Statisticians, April 4-5, 1997, Rice University.
- "Three years of risk-based capital: differential impacts on life/health industry segments," (with Prof. Etti Baranoff), paper presented at American Risk and Insurance Association annual meeting, August 1997, in San Diego.
- Conference of Texas Statisticians, April 24-25, 1998, Baylor University.
- "An examination of linear applications in life solvency studies -- A semiparametric analysis," (with Prof. Thomas Shively and Prof. Etti Baranoff), paper presented at American Risk and Insurance Association annual meeting, August 1998, in Boston.
- "Inconsistencies in insurance broker's laws across states: A review and impact analysis," (with Prof. Etti Baranoff and Ms. Dalit Baranoff), paper presented at Southern Risk and Insurance Association meeting, November 1998, in Williamsburg, VA.
- Conference of Texas Statisticians, April 16-17, 1999, at SMU.
- "The relationship between asset risk, product risk, and capital in the life insurance industry," (with Prof. Etti Baranoff), paper presented at American Risk and Insurance Association annual meeting, August 1999, in Vancouver.
- "The relationship among asset risk, product risk, and capital in the life insurance industry: A semiparametric approach," (with Prof. Thomas Shively and Prof. Etti Baranoff), paper presented at Southern Risk and Insurance Association meeting, November 1999, in Orlando.
- "The effect of regulated versus market risk on the capital structure of life insurers: A structural equation modeling approach," (with Prof. Savas Papadopoulos and Prof. Etti Baranoff), paper presented at American Risk and Insurance Association annual meeting, August 2000, in Baltimore.
- "A semiparametric decision tool for managing capital structure: The case of life insurers," (with Prof. Thomas Shively and Prof. Etti Baranoff), Financial Management Association annual meeting, Aug 2000, in Seattle.
- "The interrelationship among organizational forms and capital structure in the life insurance industry," (with Prof. Etti Baranoff), paper presented at Southern Risk and Insurance Association meeting, November 2000, in San Antonio.

- "The relationship between capital and earnings of life insurers," (with Prof. Etti Baranoff), paper presented at American Risk and Insurance Association annual meeting, Aug 2001, in Indianapolis.
- "The effect of regulated versus market risk on the capital structure of life insurers: a structural equation modeling approach", (with Prof. Etti Baranoff and Dr. Savas Papadopoulos), paper presented at FMA (Financial Management Association) annual meeting, San Antonio, 2002.
- "The Interrelationship among organizational and distribution forms and capital and asset risk structures in the life insurance industry," (with Prof. Etti Baranoff), paper presented at ARIA (American Risk and Insurance Association) annual meeting, Aug 2002, in Montreal.
- "Determinants of asset allocation dynamics in the life insurance industry," (with Prof Etti Baranoff), paper presented at ARIA annual meeting, Aug 2003, in Denver.
- "Life Insurers' Asset Allocation Dynamics and Performance", (with Prof. Etti Baranoff), paper presented at ARIA (American Risk and Insurance Association) annual meeting, Chicago, Aug 2004.
- "Determining Market Values of Individual U.S. Life Insurers", (with Liyan Zhao and Prof. Etti Baranoff), paper presented at ARIA (American Risk and Insurance Association) annual meeting, Chicago, Aug 2004.
- "The relative efficiency of ranked set sampling in ordinary least squares regression", (with Prof. Elizabeth Murff), paper presented at Joint Statistical Meetings, August 2005, Minneapolis.
- "Life insurers' asset allocation dynamics and performance" paper presented at WRIA (Western Risk and Insurance Association) meeting, Jan 2005, in Monterey Bay, CA
- "The relationship between life insurers' asset allocation and performance," (with Prof. Etti Baranoff), paper presented at FMA (Financial Management Association) annual meeting, Oct 2005, in Chicago.
- "Patents, venture capital, and software start-ups," (with Prof. Ronald Mann), paper presented at annual meeting of the ALEA (American Law and Economics Association), May 2006, in Berkeley.
- "An empirical map of enterprise risk space for life insurers: Implications for ERM," (with Prof. Etti Baranoff), paper presented at ARIA (American Risk and Insurance Association) annual meeting, August 2006, in Washington, D.C.
- "Market discipline in life insurance: Insureds' reaction to rating downgrades in the context of enterprise risks," (with Prof. Etti Baranoff), paper presented at:
  - ARIA (American Risk and Insurance Association), Quebec City, Canada, August, 2007.
  - WRIA (Western Risk and Insurance Association), Kauai, January, 2008
  - ARIA (American Risk and Insurance Association), Portland, Oregon, August, 2008.
  - EGRIE (European Group of Risk and Insurance Economists), Toulouse, France, September, 2008.
- "Variable annuities with guaranteed living benefits and mortgage backed securities: A capital crisis for life insurers?" (with Prof. Etti Baranoff and Bo Shi), paper presented at:
  - ARIA (American Risk and Insurance Association), Providence, Rhode Island, August, 2009.
  - Financial Management Association annual meeting, New York, October, 2010
  - EGRIE (European Group of Risk and Insurance Economists), Palma de Majorca, Spain, September, 2012
- "An empirical map of enterprise risk space for life insurers: Implications for ERM," (with Prof. Etti Baranoff), paper presented at Society of Actuaries ERM Conference, Chicago, May, 2009.
- "Capital ratio, product risk and asset risk relationships in the U.S. health insurance industry" (with Prof. Etti Baranoff and Bo Shi), paper presented at:
  - World Risk and Insurance Economics Congress, Singapore, July, 2010.
  - Financial Management Association annual meeting, New York, October, 2010
  - Western Regional Risk and Insurance Association, Santa Barbara, January, 2011
  - World Finance Conference, Rhodes, Greece, June, 2011
- "Implications for U.S. health insurers of future growth in the age 65+ population," (with Prof. Eti Baranoff, Prof. Bo Shi), paper presented at American Risk and Insurance Association, Minneapolis, August, 2012
- "Is the U.S. life insurance industry in danger of systemic risk by using hedging derivatives?" (with Prof. Etti Baranoff, Prof. Patrick Brockett, Prof. Bo Shi), paper presented at
  - Western Regional Risk and Insurance Association, Kona, Hawaii, January, 2012

- EGRIE (European Group of Risk and Insurance Economists), Palma de Majorca, Spain, September, 2012
- "Does health insurers' bargaining power affect health insurance premium change?" (with Prof. Bo Shi and Prof. Etti Baranoff), paper presented at
  - American Risk and Insurance Association, Washington, D.C., August, 2013
  - Asia Pacific Risk and Insurance Association, New York, July, 2013
- "Surrenders in the life insurance industry: A systemic risk of runs?" (with Prof. Etti Baranoff and Daniel Haefeli), paper presented at ARIA, 2013., paper presented at American Risk and Insurance Association, Washington, D.C., August, 2013

DOCTORAL SUPERVISION
(Primary Advisor)

Sue Leurgans, "Asymptotic distribution theory in generalized isotonic regression," Stanford, 1978. Placed at University of Wisconsin, Madison.

Neil Willits, "An approach to superefficient estimation," Stanford, 1981. Placed at University of California, Davis.

A. Narayanan, "Asymptotic distribution and sample properties of univariate mode estimators", University of Texas, 1986. Placed at University of Indiana, Bloomington.

Walter Johnston, "A tree-based modeling strategy", University of Texas, 1988. Placed at University of Texas Southwestern Medical Center, Dallas.

Ming Luo, [co-chair: Prof. Lynne Stokes] "Estimation of the CDF of a finite population in the presence of measurement error", 1996. Placed at First Data Corporation, Omaha.

Elizabeth Murff, "On the efficiency of ranked set sampling relative to simple random sampling for estimating the ordinary least squares parameters of the simple linear regression model", 2001. Placed at Eastern Washington University, Spokane.

Liyan Zhao, "Estimating market values for non-publicly-traded U.S. life insurers," 2005. Placed at Dell Financial Services, Austin.

Bo Shi, "New aspects of product risk measurement and management in the U.S. life and health insurance industries," 2012. Placed at Morehead State University, Morehead, Kentucky.

MASTERS SUPERVISION

Each year I am the primary supervisor for about two-three students, on average, in the masters in statistics program at UT.

TEACHING SUMMARY

At University of Texas:

Introductory MBA and BBA Honors core statistics, mathematical statistics, multivariate analysis, statistical computing.

Taught Time series Modeling for Division of Statistics and Scientific Computing, May, 2008-May, 2013.

At Stanford:

Full range of statistics courses, from introductory pre-calculus undergraduate courses, to masters level service courses, to measure-theoretic mathematical statistics and seminars.

Won the Joe Beasley Teaching Excellence Award for outstanding MBA core professor, 1992.

RECENT UNIVERSITY SERVICE

- Member, IROM Executive Committee (2012 -) – faculty decision-making body for IROM
- Chair (2013 -), McCombs Tenure Track Teaching Awards Committee – College teaching awards for tenure track McCombs faculty
- Member (2012 -), McCombs NTT Teaching Awards Committee (2012) – College teaching awards for non-tenure track McCombs faculty
- Member, PhD admissions for IROM quantitative areas (every year) – admits new PhD students to the program
- Wrote and evaluated PhD qualifying exam in statistics for IROM (every year)
- Adjunct Professor in Division of Statistics and Scientific Computation (DSSC) (2007 -)
- Member, DSSC faculty recruiting committee (2012 -) – selects new faculty hires for DSSC
- Member, MBA Programs Committee (until 2010) – sets policies for the MBA programs 2009-10
- Member, BBA Curriculum Reform Committee (2009-10)
- Member, Texas MBA Program Renewal Task Force (2007-08) – revised the MBA curriculum

EDITORIAL SERVICE

Associate Editor for *Journal of Risk and Insurance* (2001-)

Referee for:

Advances in Order-Restricted Inference
American Statistician
American Mathematical Society (National Security Agency)
Annals of Statistics
ARO proposal referee
Austin Technology Incubator
Biometrics
Canadian Journal of Statistics
Communications in Statistics
Computational Statistics and Data Analysis
Decision Sciences
Decision Support Systems
Geneva Papers on Risk and Insurance: Issues and Practice
Journal of Agricultural Food Chemistry
Journal of American Statistical Association
Journal of Environmental and Ecological Statistics

Journal of Marketing Research
Journal of Nonparametrics
Journal of Risk and Insurance
Journal of Risk Management and Insurance Review
Journal of Statistical Computation and Simulation
Journal of Statistical Planning and Inference
Journal of the Academy of Marketing Science
Mathematical Reviews (62 abstracts)
North American Actuarial Journal
National Science Foundation proposal referee
Probability and Statistics Letters
Psychometrika
Research in Use (Bureau of Business Research)
Scandinavian Journal of Statistics
Small Business Research
Statistica Sinica
Statistics and Probability Letters
Transportation Research

PROFESSIONAL ORGANIZATIONS

Institute of Mathematical Statistics
American Risk and Insurance Association
American Statistical Association
Austin Chapter of American Statistical Association
(President, 1982-83; Vice-President, 1981-82; Council Rep, 1985-9)
European Group of Risk and Insurance Economists
Risk Theory Society

Other

Hosted 2009 annual meeting of the Risk Theory Society in Austin, April, 2009
Listed in original *Who's Who in America*

CONSULTANT FOR:

Businesses:

American Airlines
American Express
Animal Medical & Surgical Hospital
AON Corp
Apple Computer
Autodesk
Bank of America
Bankers Trust
BMC Software
Boatmen's Bank
Centex Homes
CH2M Hill
Dillards Department Stores
Eaton Corp
Encore Orthopedics
Ernst & Young
First American Corporation
Ford Motor
Frito-Lay
Galveston Bay Greyhound Racing Association
Halliburton Oilfield Services
Jacobs Engineering
Kleinfelder
London Market Insurers
Lonestar Overnight
McDermott Industries
McKinsey & Company
Merrick
Mobil Oil
Montgomery Watson
Multimedia Games
Neubus Corp
Parsons Brinckerhoff
Pavilion Technologies, Inc.
Phillips Petroleum
Philips Plastics
PHS
Post, Buckley, Schuh & Jernigan
Research and Planning Consultants
Resolute Management Services
Sallie Mae
Sheshunoff Management Associates
Southwestern Bell Telephone
Sprint Telecommunications
State Auto
Tandem Computers
TaxOps
TetraTech
Texas Disposal Systems
The Timken Company
Toyota
U.S. Filter
Walmart
Westfield

Law firms:

Akin Gump
Baach Robinson & Lewis
Brown McCarroll
Butler Rubin
Byrd, Davis, Furman, LLP
Clyde & Co
Day Berry and Howard
Fullbright & Jaworski
Gray & Becker
Hancock Rothert & Bunshoft
Hilgers and Watson
Hutchison Boyle Brooks & Fisher
The Kaiser Law Firm (Houston)
Law Snakard & Gambill
Lord Bissell & Brook
Lovells
Martens, Seay and Todd
Mayer Brown and Platt
Mendes & Mount
Philip Maxwell Law Firm
Podvey Meanor Catenacci et al
Riker, Danzig
Rivkin, Radler
Ross Dixon and Bell
Simmons Griffin & Lydon
Smith, Robertson
Sonnenschein Nath & Rosenthal
Steve Smith & Associates
Vinson & Elkins
Walker Wilcox Matousek
Zuckerman Spaeder
and 7 other local law firms

Government and non-profit:

Attorney General of Texas
Baptist Health Systems
City of Austin
City of Sequin
Kirk Mitchell campaign
National Treasury Employees Union
Seton Hospital
State Auditor of Texas
Texas Civil Liberties Union
Texas Comptroller of Public Accounts
Texas Department of Health
Texas Department of Human Services
Texas Department of Insurance
Texas Natural Resource Conservation Commission
(formerly: Texas Air Control Board)
Texas Parks and Wildlife Commission
Texas Worker's Compensation Commission

CONTRACTS and GRANTS

DATE	SPONSOR	SUBJECT
2013-	Greece (EU)	Risk management of EU banks
2012	TX Dept of Transportation	Time series forecasting
2008-9	UT Center for Energy & Environmental Resources	Methods to adjust for meteorology in trends in Texas air pollution
2008-9	Texas Comptroller	Testing statistical methods for property tax equalization
2003	UT Center for Energy & Environmental Resources	Equivalence of air monitoring methods
2000	LARIAT	Use of Info Tech to leverage MBA Core
Aca. Yr., 1998-9	TNRCC	Air pollution episode selection
Summer, 1996	TDH	Records matching algorithms
Summer, 1994	TNRCC	Univ. Consortium Air Pollution Studies
1993-96	EPA	Environmental Status and Trends
Aca. Yr. 1992	TDI	Survey for Health Insurance Needs
Summer, 1992	CIDC	Forecasting System
1992 – 94	SBI (TDI)	Audit of Auto Insurance Industry
Aca.Yr. 1991	Texas Air Control Board	Data Analysis Support
Summer, 1991	Texas Air Control Board	Data Analysis Support
Summer, 1991	Seton Hospital	Sampling/Information Systems
Summer, 1991	SBI (TDI)	Audit of Auto Insurance Industry
Summer, 1991	State Auditor	Sampling Methodology
Fall, 1990	State Auditor	Forecasting Methodology (DHS)
Fall, 1990	Texas Parks & Wildlife	Trends in Wildlife Populations
Fall, 1990	CIDC	Encumbrance/Projection System
Fall, 1990	State Auditor	Forecasting Methodology (CIDC)
Summer, 1990	Texas Air Control Board	Weather Patterns Analysis
Summer, 1990	CIDC	Encumbrance/Projection System
Spring, 1990	State Auditor	Forecasting Methodology
Spring-Summer, 1990	Texas Air Control Board	Effect of Weather on Air Pollution
Summer, 1982	Office of Naval Research	Non-Gaussian Signal Detection
Summer, 1981	Office of Naval Research	Non-Gaussian Signal Detection
Summer, 1980	SIMS	Environmental Statistics
Summer, 1979	SIMS	Environmental Statistics
Summer, 1978	SIMS	Environmental Statistics
Summer, 1977 Aca. Yr. 1977	SIMS, NSF	Environmental Statistics & Multivariate Statistics
Summer, 1976 Aca. Yr. 1976	SIMS, NSF	Environmental Statistics & Multivariate Statistics
Summer, 1975 Aca. Yr. 1975	SIMS, NSF	Environmental Statistics & Multivariate Statistics
Summer, 1974	NSF	Multivariate Statistics
Summer, 1973	NSF	Robust & Adaptive Statistics

Agency abbreviations:

CIDC = Chronically Ill and Dependent Children
EPA = Environmental Protection Agency
LARIAT = Leadership Alliance for Research, Instruction, and Tech. (Dell)
NSF = National Science Foundation
SBI = State Board of Insurance
SIMS = S.I.A.M. Institute for Mathematics and Society
TDH = Texas Department of Health
TDI = Texas Department of Insurance
TNRCC = Texas Natural Resource Conservation Commission