Dickey, David A. **Curriculum Vitae**

Education

PhD; May 1976; Department of Statistics, Iowa State University
Winner of Snedecor Award for outstanding statistics graduate student at ISU
MS; May 1969; Math; Math; Miami University, Oxford, Ohio
BA; July 1967; Math; Miami University, Oxford, Ohio

Positions Held

6/1976 - Present:	Professor, Department of Statistics, North Carolina State University. Associate faculty, Economics. Financial Math faculty.
9/1971 - 6/1971:	Instructor Randolph Macon College, Ashland, Virginia
9/1969 - 6/1971:	Instructor College of William and Mary in Virginia
1968 Summer:	Staff member Operations Research Division, Air Force Logistic Command, Wright Patterson AFB, Ohio
1968 - 1969:	Math Instructor, Miami University, Ohio

Sabbatical Leaves and Scholarly Assignments

10/2001:	Visiting Scholar, Federal Reserve Bank of St Louis
9/1982 - 6/1983:	Scholarly Assignment, US Census Bureau

Honors and Awards

Fellow, American Statistical Association, August 2000
D.D. Mason Faculty Award, 1986.
Academy of *Outstanding Teachers* at North Carolina State University in Spring 1994
Member of Honor Societies: Phi Kappa Phi, Sigma Xi, Mu Sigma Rho, Pi Mu Epsilon (mathematics), Kappa Phi Kappa (education), Phi Mu Alpha(music)

Areas of Research

Time series analysis

Funded Grants

Title	**Agency**	**$ Amount**	**Time Period**	**PI/Co-PI**	**Other Investi-gators**
StatisticalSupport for Project OPEN	NCSU subcontract	$98,999	2003-2006	D. Dickey L.Stefanski	M. Williams
Prognostic Capability for Coastal and Estuarine Flooding	National Severe	$17,000	2001-present	D. Dickey L. Pietrafesa	

	Storm Labs				
Determination of a Recruitment Index Methodology…	USDC NOAA NMFS	$75,000	2002-2003	L.Pietrafesa L.Xie D. Dickey D. Eggelston J. Morrison	
Faculty Research Award	North Carolina State Univ.	$14,248	2001	D. Halstrom K. Smith D. Dickey	
SCREMS grant # 0113012	National Science Foundation	$43,844	2001	P. Bloomfield D. Dickey Several others	
Statistical Support	(consultant on Brown grant)	$2,490	2001	Blake Brown	
An Ergonomics Assesment Methodology for Work-Workers Systems	(consultant Sommerich grant)	$1,000	2000	C. Sommerich	
Temporal Analysis of Hydrology Variability	North Carolina Coop. Fish and Wildlife Research Unit.	$22,539	1999	D. Dickey	
Ductile Grinding of Brittle Materials	(consultant on grant)	$2,129	1993	T. Dow R. Scattergood	
Waste Leakage in Laboratory Produced Wall Assemblies	(consultant on grant)	$2,120	1993	P. Zia	

Books and Book Chapters

Brocklebank, J. and Dickey, D.A. (2003). *SAS System for Forecasting Time Series* 2ed. SAS Institute.

Rawlings, J. O., S. G. Pantula and D. A. Dickey (1998). *Applied Regression Analysis: A Research Tool*. Springer Verlag, NY.

Steel, R.G. D., J. H. Torrie and D.A. Dickey (1997). *Principles and Procedures of Statistics: A Biometrical Approach*, McGraw-Hill, San Francisco (3ed.).

Brocklebank, J. and Dickey, D. A. (1986). *SAS System for Forecasting Time Series.* SAS Institute. In 1998 this book went into its 7th printing.

Said, S.E. and Dickey, D. A. (1981). Districution of Parameter Estimates in ARIAM(p, 1, q) Models in *Applied Times Series Analysis* O. D. Anderson, ed.

Bowerman, B.L., R. O'Connel, and D.A. Dickey (1986). *Linear Statistical Models.* Ducbury.

Dickey, D.A. (1983) "Statistics and the Stock Market", in *Fascination of Statistics,* Book and Arnold eds.

Refereed Publications

Huh, Seungho, Dickey, D.A., Meador M. R., and Ruhl, K. E. (2005) Temporal Analysis of the Frequency and Duration of Low and High Streamflow: Years of Record Needed to Characterize Streamflow Variability," In Press, *Hydrology*.

Phillips, K., Ghosh, T.K., Dickey, D. A. (2005) "Stress Relaxation of Tufted Carpets and Carpet Components: Analysis of the Tufted Carpet Structure," In Press, *Textile Research Journal*.

Dickey, D. A. (2004) "A Review of Unit Root Testing Results," *Estatistica com Acaso e Necessidade.*, Rodrigues, Rebelo and Rosado editors. Sociedad Portuguesa de Estatistica, Faro Portugal. 1-14

Dickey, Michael D., Stewart, M. D., Willson, C. G. and Dickey, D. A. (2004) "An Automated Statistical Process Control Study of Inline Mixing Using Spectrophometric Detection," accepted for publication, *Journal of Chemical Education.*

Lee, Taiyeong and Dickey, D.A. (2004) "Unconditional Maximum Likelihood Estimator for a Season Unit Root Test," *Journal of Time Series Analysis,* **25:** 551-561

Dickey, D. A., and S. G. Pantula (2002). "Determining the order of differencing in AR processes." *Journal of Business Economics Statistics*, **20**: 18-24. (20th Anniversary Commemorative Issue- published originally in 1986)

Evans, B.A. and D.A. Dickey (2002)."Normalizations for periodogram-based unit root tests", *Statistics and Probability Letters*, **60**: 343-350.

Walker, John T., V. P. Aneja and D. A. Dickey (2000) "Atmosheric Transport and Wet Deposition of Ammonium in North Carolina", *International Journal of Atmosheric Environment* **34,** 3407-3418.

Dickey, D.A. (2000). "Time Series: Nonstationary Distributions and Unit Roots", in *International Encyclopedia of the Social and Behavioral Sciences.*

Akdi, Y.M. and D.A. Dickey(1999). "Periodograms for Seasonal Time Series with a Unit Root", Istatistik **2**, 153-164

Gonzalez-Farias, Graciela and Dickey, D.A. (1999). "Unit Root Tests: An Unconditional Maximum Likelihood Approach", *Boletin de la Sociedad Matematica Mexicana* **5**, 199-221.

Akdi, Y.M. and D.A. Dickey(1998). "Periodograms of Unit Root Time Series: Distributions and Tests", *Coomunications in Statistics,* **27,** 69-87.

Dickey, D.A., D. W. Jansen and D.L. Thornton (1996) "A Primer on Cointegration with an Application to Money and Income". Reprinted in *Foundations of Probability, Econometrics and Economic Games,* Omar F. Hamouda, ed. Edward Elgar Publishing Lts. (original paper 1991).

Dickey, D. A. and J. Tim Arnold (1995). "Teaching statistics with data of historic interest". *Journal of Statistics Education*, **3**, n.1.

Bush, E. J., P. Cowen, W. E. Morgan Morrow, D. A. Dickey and K. E. Zering (1995). "Empirical Similarity of Responses of Two Random Samples of North Carolina Swine Producers to a Management Questionnaire used in the US National Swine Survey", *Preventive Veterinary Medicine* **22**, 1-13.

Dickey, D. A., (1994), “A Statistical Test for Stability”, Current Contents 24,8.
Dickey, D. A., D. W. Jansen and D. L. Thornton (1994) “A Primer on *Cointegration* with an Application to Money and Income”, reprinted in *Cointegration for the Applied Economist*, B. B. Rao ed., MaxMillan Press (original paper 1991)
Dickey, D. A. and R. J. Rossana (1994). “Cointegrated Time Series: A Guide to Estimation and Hypothesis Testing”, *Oxford Bulletin of Economics and Statistics* **56,** 325-353.
Chang, M.C. and D. A. Dickey (1993). “Recognizing Overdifferenced Time Series”, *Journal of Time Series Analysis,* **15**, 1-18.
Dickey, D. A., D. P. Hasza and W. A. Fuller (1992). “Testing for Unit Roots in Seasonal Time Series”, reprinted in *Modeling Seasonality,* Oxford University Press, Sven Hylleberg, editor (original article 1984)
Dickey, D. A., (1992). “Comments on a Paper of Carl Christ”, 17^{th} Annual Economic Policy Conference, Federal Reserve Bank of St Louis.
Dickey, D. A., D. W. Jansen, and D. L. Thornton (1991) A Primer on Cointegration with an Application to Money and Income. *Review of Federal Reserve Bank of St. Louis,* **73**, 58-78.
Caruolo, E. V., R. F. Jarman and D. A. Dickey (1990). Milk Temperature in the Claw piece of the Milking Machine and Mammary Surface Temperature are Predictors of Internal Mammary Temperature in Goats. *Journal of Veterinary Medicine* **A 37**, 61-67.
Dickey, D. A. (1990). “Testing for Unit Roots in Vector Processes and its Relationship to Cointegration”, Thomas Fomby (editor), *Advances in Econometrics,* Volume **8**, 87-105.
Fountis, N. G. and D. A. Dickey (1989). “Testing for a Unit Root Nonstationarity in Multivariate Autoregressive Time Series”, Annals of Statistics, **17**, 419-428.
Spooner, J. S. L. Brichford, D. A. Dickey, R. P. Maas, M. D. Smolen, G. J. Ritter, and E. G. Flaig (1988). “Determining The sensitivity of the Water Quality Monitoring Program in the Taylor Creek-Nubbin Slough, Florida Project”. *Lake and Reservoir Management,* **4(2)**:113-124.
Sen, D.L. and D. A. Dickey (1987). “Symmetric Test for Second Differencing in Univariate Time Series”, *Journal of Business and Economic Statistics,* **5**, 463-473.
Dickey, D. A. and S.G. Pantula (1986). “ Determining the order of differencing in AR processes”. *Journal of Business Economics Statistics,* **5**, 455-461.
Dickey, D. A., W.R. Bell and R. B. Miller (1986). “Unit Roots in Time Series Models: Tests and Implications”, *American Statistician* **40,** 12-26.
Said, S. E. and D. A. Dickey (1985). “Hypothesis Testing in ARIMA (p, 1, q) Models”, *Journal of the American Statistical Association,* **80**, 369-374.
Said, S. E. and D. A. Dickey (1984). “Testing for Unit Roots in Autoregressive-Moving Average Models of Unknown Order”, *Biometrika*, **71**, 599-607.
Dickey, D. A., D. P. Hasza, and W. A. Fuller (1984). “Testing for Unit Roots in Seasonal Time Series”, *Journal of the American Statistical Association,* **79**, 355-367.
Mochrie, R.D. and D. A. Dickey (1984). “Comparison of Semiautomated Method with Official Optical Somatic Cell Counting Method III”, *Journal of the Association of*

Official Analytical Chemistry, vol. **67 #3**, 615-617.

Rosen, M.B., R. D. Mochrie, E. V. Caruolo, and D. A. Dickey (1983). “Relationship of Pulsation Ratio, and Linear Closure Rate to Milking Efficiency”. Journal of Dairy Science, 2580-2586.

Belongia, M. and D. A. Dickey (1982). “Prefiltering and Causality Tests”, *Agricultural Economic Research*, vol. **34, #4**, 10-14.

Dickey, D. A. (1981). “Histograms, Percentiles and Moments”. *American Statistician*, 164-165.

Dickey, D. A. and W. A. Fuller (1981). “Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root”. *Econometrica* **49**, 1057-1072.
This article was name a “citation classic” in 1993 by the Institute for Scientific Information (publishers of the Social Sciences Citation Index). This article was cited in the official support documentation for the 2003 Nobel Prize in Economics.

Dickey, D. A. and W. A. Fuller (1979). “Distribution of the Estimators for Autoregressive Time Series with a Unit Root”. *Journal of the American Statistical Association*, **74**, p. 427-431. This article was cited in the official support documentation for the 2003 Nobel prize in Economics.

Presentations at Regional, National or International Meetings

Invited Presentations

Case Studies in Time Series, Southeast SAS User’s group, Nashville, Nov. 1, 2004.

Case Studies in Time Series II, Periodic Behavior, Southeast SAS User’s group, Nashville, Nov. 1, 2004.

Unit Root Tests, Keynote address Portuguese Statistical Society, Faro, 2003.

Case Studies in Time Series, SAS Users’ Group International, Seattle, Wash. 2003

A Review of Some Unit Root Testing Results, North Carolina ASA Chapter, 2003.

An Autoregressive Order 1 Process with Time Varying Coefficient, Joint Statistical Meetings, 2002.

A Review of Some Unit Root Test Results, Summer Research Conference in Statistics, Natchez, Miss. June 2002.

A Review of Some Unit Root Testing, Keynote address at the Middle East Technical University Conference on Economics, 2001.

Unit Root Tests, Iowa State University in honor of Wayne Fuller’s retirement, 2001.

Identifying Time Series Models, Southeast SAS User’s group, Charlotte, N. C. Oct. 2000.

Statistical Graphics, 24th Annual SAS User’s Group International Conference, 1999.

Distributions and Tests for Nonstationary Time Series, G. M. Cox Statistics Conference, 1999.

Regression with Time Series Errors, Southeast SAS User’s Group Conference, Norfolk, Va. Sept. 1998.

Regression with Time Series Errors, SAS Users’ Group International, Nashville Tenn. March 1998.

Beating the System: Adapting Exploratory Methods to the SAS Environment, Southeast

SAS User’s Group Conference, 1998.
Graphics for Visualizing Statistical Concepts, Southeast SAS User’s Group, 1996.
A Look at the Time Series Forecasting Capabilities of SAS/ETS, Southeast SAS User’s Group, 1996.
Statistical Graphics, Southeast. SAS Users’ Group, Raleigh, NC., Sept. 1995.
Using graphics to convey statistical concepts and results, Southeast SAS User’s Group, Charleston, S. C., 1994.
Unit Root Testing, N. C. Chapter of American Statistical Association, 1992.
Box-Jenkins Transfer Functions, Pharmaceuticals Management Science Association, Boca Raton, Fla., 1990.
Unit Roots and Cointegration, UNC Wilmington (Econ), 1990.
Unit Root Tests and Cointegration, Federal Reserve Board of Governors, 1989.
Unit Root Tests and Cointegration, NCSU Economics Macro Workshop, 1989.
Elementary Forecasting Tools in the SAS System, SAS User’s Group International, 1988.
Checking for Autocorrelation in Regression Residuals, SAS User’s Group International Conference, 1986.
Performing the X-11 ARIMA Seasonal Adjustment, SAS User’s Group International 1986.
State Space Modeling, Pacific Statistical Conference, Auckland, New Zealand, 1985.
Preliminary Transformation in Time Series Modeling, Pacific Statistical Conference, Auckland, New Zealand, 1985
Using the SAS System to Perform Univariate and Cross Spectral Analysis, SAS User’s Group International 1984.
Preliminary Transformations in Time Series Modeling, SAS User’s Group International, 1984.
Testing for Stationarity in Time Series, North Carolina ASA Chapter, 1984.

Other Presentations

Unconditional Maximum Likelihood Tests for Unit Roots. American Statistical Association, August 1995.
Effects of Nonstationarity on Periodogram Distribution NBER-NSF Time Series conference, Harvard University, 1995
Exact maximum likelihood unit root tests, Triangle Econometrics Meeting, Research Triangle, N. C., 1994
Recognizing Overdifferenced Time Series, Business and Economics Statistics Section of the American Statistical Association, 1990
Stationarity Transformations in Vector Autoregressions, Business and Economics Section of the American Statistical Association, 1986.
Power of Unit Root Tests, Business and Economic Statistics Section of the American Statistical Association, 1984.
Testing ARIMA (p, 1, q) versus ARMA (p + 1, q) Models Business and Economics Section of the American Statistical Association, 1981.
Diagnosing and Investigating Time-Series Realizations using SAS Software, SAS User’s Group International, 1998.

Unconditional Maximum Likelihood Test for Unit Roots, American Statistical Association, 1995.
Effects of Nonstationarity on Periodogram Distributions, NBER-NSF (Harvard), 1995
An Unconditional Maximum Likelihood Test for a Unit Root, American Statistical Association, 1986.
Distribution of First Order Autoregressive Estimator, Business and Economic Statistics Section, American Statistical Association, 1976.
Testing for Unit Roots in Vector Autoregressions, 50th Anniversary Iowa State Stat Lab, 1983.
Testing for Unit Roots in Vector Autoregressions, NBER-NSF Time Series Meetings, Chicago, 1983.
Testing ARIMA(p, 1, q) versus ARMA(p+1, q), American Statistical Association, 1981.
Autoregressive Estimation in Seasonally Nonstationary Time Series, American Statistical Association, 1979.
Nonstationary Time Series, IMS Time Series Meetings, Ames, Iowa, 1978.
Research on Nonstationary Time Series, ASA meetings UNC-CH, 1977.

Seminars

A Review of Unit Root Tests. Joe Havlichek Memorial lecture, Department of Economics, The Ohio State University, May 8, 2003.
A Review of Unit Root Tests., NC American Statistical Assoc., March 2003.
Experimental design – Invited lecture to senior design class in mechanical engineering NCSU, yearly 1992-2003.
Stationarity Testing in Time Series, NCSU stat seminar, 2000
Sample Size Determination under Autocorrelation, NCSU, Environmental statistics seminar, 2000.
R-square Measures in Logistic Regression lunchtime consulting group, 2000
A Review of Selected Results in Unit Root Tests, Virginia Tech (Econ.), 1999
Time Series Short Course, ITESM Monterey Mexico, 1998
Unit Roots, Cointegration, and Statespace Representation of Time Series. Week long series of lectures at Universidad de Brasilia, Brazil, 1995
Using Graphics to Convey Statistical Concepts and Results, S.E. SAS Users' Group, Charleston, SC, Sept. 1994.
Testing for Unit Roots, Virginia Tech (Stat.), 1993
A Review of Stationarity Testing, Appalachian State University, 1993
Statistical Design in Experimentation with Grinding of Brittle Materials, Preceision Engineering Center lunch seminar 1991, and Precision Engineering Review Workshop 1992.
Testing for Overdifferencing in Time Series, Clemson University (Econ.), 1991
Experimental Design as a Science Research Tool N. C. School of Science and Math, 1991.
Testing for Unit Roots, NCSU Math Department Probability Seminar, 1991.
Unit Roots and Cointegration, 5 day seminar at Federal Reserve Board of Governors, Washington D.C. 1990

Unit Roots and Cointegration, 2 day workshop/seminar, Clemson University, 1990
All About Cointegration, UNC Chapel Hill (Econ), 1990.
Unit Roots and Cointegration, 5 day seminar at Federal Reserve Bank of St. Louis, 1989
Testing for Unit Roots, University of South Carolina (Stat), 1989.
A Review of Unit Root Testing Procedures, East Carolina University (Math), 1989.
Stationarity Testing in Time Series, UNC-Charlotte (Math), 1986.
Statespace Modeling, SAS Users' Group International, Reno, Nev. March 1985.
Research on Unit Roots, Virginia Commonwealth University (Math), 1985.
ARIMA and Statespace Models, Dept of Business Analysis, Miami University, 1984.
Testing for Nonstationarity in Time Series, University of Maryland, 1984.
Testing for Nonstationarity in Time Series, U. S. Census Bureau (SRD), 1984
Testing for Nonstationarity in Time Series, U. S. Department of Energy, 1984.
Using Inverse Autocorrelations in Model Identification, U. S. Census Bureau (Demography), 1984.
Introduction to Statespace Models, U.S. Census Bureau (Demography), 1984.
Effects of autocorrelation in Regression, Los Alamos National Labs, 1978.
Estimation and Hypothesis Testing in Nonstationary Time Series, Triangle Econometrics Seminar, 1976.

Students Directed

PhD Thesis Students (topic, journal, 1st job)

SangPil Hwang – (2004) Nonlinear Autoregressive Models. (Bank of Korea).
Seungho-Huh – (2001) Sample Size Determination and Stationarity Testing in the Presence of Trend Breaks. (Research Triangle Inst.).
Hyunjung Kim (2001) Unit Root Tests in Panel Data: Weighted Symmetric Estimation and Maximum Likelihood Estimation. (Samsung Corp., Korea)
Taiyeong Lee – (1998) Unit Root Tests in Nonstationary Time Series. *J. Time Series Analysis,* (SAS Institute)
Barry Evans – (1998) Estimation and Hypothesis Testing in Nonstationary Time Series Using Frequency Domain Methods. *Stat & Prob Letters* (Glaxo-Wellcome)
Yilmaz Adki – (1995) Periodogram Analysis for Unit Roots. *Istatistik.* (Professor, Ankara U. Turkey)
Garciela Gonzaler-FArias (1992) A New Unit Root Test for Autoregressive Time Series (Professor Hankuk University Seoul Korea)
Ming Chang – (1989). Testing of overdifference. *Journal of Time Series Analysis* (SAS Institute)
David Sen – (1985). Robustness of single unit root test statistics in the presence of multiple unit roots. *Journal of Business and Economic Statistics* (IBM)
N.G. Fountis – (1983). Testing for unit roots in multivariate autoregressions. Annals of Statistics (army services, Greece)
S.E. Said – (1982). Testing for unit roots in autoregressive moving average models. JASA, *Biometrika* (Professor ECU)

I have also co-chaired several PhD committees.

Students in Calendar Year 2003

Fall 2003

	Advisor/chair				Committee member			
	Stat	Biomath	Bionf..	Other	Stat	Biomath	Bionf.	Other
PhD	2	0	0	0	3	0	0	5
MS	8	0	0	0	1	2	0	3
BS	0	0	0	0	0	0	0	0

Spring 2003

	Advisor/chair				Committee member			
	Stat	Biomath	Bionf..	Other	Stat	Biomath	Bionf.	Other
PhD	2	0	0	1	5	0	0	13
MS	8	0	0	0	0	2	0	8
BS	0	0	0	0	0	0	0	0

Courses Taught

Year	**Fall**	**Summer**	**Spring**
2003	St 708, St 711, St 610-A	-	St 610-G
2002	St 512-R, St 711	-	St 610-G
2001	St 512, St 708, St 610-A	-	St 512, St 782

Service

Editorial Service

Associate Editor *Journal of Business and Economics Statistics,* 1987 – 1988
Associate Editor *American Statisticians,* 1984 – 1986
Associate Book Review Editor (Time Series), *Journal of the American Statistical Association,* (1981-1983)
Reviewed NSF proposals
Reviewed Natural Sciences and Engineering Council of Canada proposals
Reviewed tenure cases for several U.S. and foreign universities
Refereed papers for numerous statistical journals (including, *Annals of Statistics, Communications in Statistics, Econometrica, Journal of Production Economics, Ecology, Psychological Methods, Technometrics, Journal of Forecasting, Journal of Agricultural Biological & Environemental Statistics, Journal of Business and Economic Statistics, Journal of Time Series Analysis, Statistical Science, Journal of Statistical Planning and Inference, JRSS-B, Journal of Monetary Economics, Canadian Journal of Statistics, American Statistician, Biometrics, Economic Theory, Journal of Econometrics, J. Multivariate Analysis, Science, Southerm*

Journal of Agricultural Economics, Journal Simulation and Computation)

Professional Service

Chaired sessions at various Joint Statistical Meetings and NBER-NSF Time Series Workshops
Program Chair, Business and Economics section American Statistical Association, 1996
Program Chair Elect, Business and Economics section American Statistical Association, 1996
Program Chair Elect, Business and Economic section American Statistical Association, 1995
Publications Chairman of Business and Economics Statistics section American Statistical Association, 1990
Secretary-Treasurer of Business and Economic Statistics section American Statistical Association, 1986
Program Chairman for Econometrics, Time Series, and Operations Research Section, SAS User's Group International, 1986
Helped organize of NBER/NSF Time Series Conference twice.
Section Chair Econometrics and Time Series, SUGI, 1986.
Judge, Wilcoxin and Youden prize (Technometrics). 1985.

Departmental Service

Mendenhall Fellowship Committee, 1996 – 2003
Advisor to the Mu Sigma Rho, 1990-2003
Sigma Xi Liaison, 1990-2003
Faculty Search Committee, 2001, 2002
Qualifier exam committee, 2003, 2001
Beach Trip Committee, 1982 – 1992
Departmental Review Committee, 1987
Ph. D. Preliminary Written Exam Committee, chair 2000, chair 1986, 1983, 1982, 1979
Basic Exam Committee, 2002, 2001, 2000, 1999, 1998, chair 1995, 1995, 1990, 1983, 1979
Post Tenure Review Committee 1999
Dept. Admissions Committee 1999
Econometrics position search committee, 1995
Computing position Search Committee, 1998
Seminar Chair, 1983, 1981
Sigma Xi Liaison
Cox Fund Committee 1979
United Way Chair 1979

University Service

Classroom Environment Committee, 1999-2003
Sigma Xi Exec Committee, 2003

PAMS Space Committee, 2003
SAS grant steering Committee (chaired 1993), 1993 – 2003
PAMS Advisory Committee, 1999-2002
Computer Affairs Committee, 1982-1983
Harrelson Infill Committee, 1993
PAMS Century II Campaign, 1991
Student-Faculty relations Committee, 1978, 1979

Estimated Allocation of Effort (three-year average)

Research	25%
Graduate Student Advising	5%
Teaching	55%
Undergraduate Student Advising	0%
Consulting	10%
Professional Activities	5%
Administration	0%
Other	0%