

Curriculum Vitae Don Edwards

July 17, 2008

EDUCATION:

Ph.D. Statistics, Ohio State University 1981
M.S. Statistics, Ohio State University 1979
B.S. Mathematics, cum laude, Ohio State University 1977

RESEARCH INTERESTS:

Response surfaces, sampling, measures of interrater agreement, environmetrics, simultaneous inference.

EXPERIENCE: In the Program or Department of Statistics, University of South Carolina, except as noted.

2005-: Department Chair
1995-: Faculty Associate, School of the Environment
2004-07: *JABES* Management Board
2005-06 : Associate Editor, *Journal of the American Statistical Association*
2002-05: Assistant Director of Graduate Studies for Part-time and Distant Students
1996-02: Director of Graduate Studies
1995-99: Associate Editor, *Communications in Statistics: Theory and Methods*
1994-98: Consulting Statistician, Joseph W. Jones Ecological Research Center, Ichauway, Georgia.
1996: Software Designer for the *multicomp()* suite in *Splus®*, MathSoft, Inc.
1993-96: Associate Editor, *Journal of Statistical Computation and Simulation*
1989: Visiting Scientist, Operations Research and Industrial Engineering, Cornell University.
1983-87: Director, Statistical Laboratory
1981-95: Assistant Professor to Professor.

HONORS:

Distinguished Achievement Medal, ASA Section on Statistics and the Environment, 1999.
Fellow of the American Statistical Association, 1997.

FUNDED RESEARCH ACTIVITY (SELECTED):

2007: NSF, \$13,000. DMS-0726219, "Current and Future Trends in Nonparametrics" (P.I.; Edsel Peña, co-P.I.).
2006-08: NCI, \$100,000. R03 CA114783-01A. "Modeling inter-rater agreement through the use of generalized linear mixed models" (co-P.I.; Kerrie Nelson, P.I.)
2005-07: CICEET (NOAA), \$76,582. "The Effect of Climatological Cycles and Storm Events on Water Quality in the National Estuarine Research Reserve Systems of the Southeastern U.S." (co-P.I.; Susan Wilde, P.I.)
2002: BellSouth Instructional Innovation Grant, \$5,000. "Statistics for Quality Improvement: Asynchronous Distance Delivery". P.I.
1999-02: NOAA, \$289,268, "A Synthesis of Water Quality Data from the National Estuarine Research Reserve's System-Wide Monitoring Program," (co-P.I.; Elizabeth Wenner, P.I.)
1996-01 NSF, \$753,149, "The Role of Oyster Reefs in the Structure and Function of Tidal Creeks". One of 8 Senior Investigators (Richard Dame, P.I.).
2001: USC Research Office, \$30,000, "Environmetrics" (equal-partner co-P.I. with W. Piegorsch).
2000-01: SC Commission on Higher Education, \$11,583, "Statistics for Quality Improvement". (P.I.)
1993-98; 2001-06: NOAA, \$5,000,000; \$4,700,000. "Urbanization and Southeastern Estuaries", One of ~15 Senior Investigators.
1992-94 NSF, \$94,980, "Elementary Statistics Laboratory Course Development," co-P.I. (1 of 3).
1983-94 NSF, \$9,600,000, "Long Term Ecological Research at North Inlet". One of ~12 Investigators (F.J. Vernberg, P.I.)
1986-87 NIH R01, \$30,531, "Sharp multiple comparisons for multivariate analysis" (P.I.)
1985-86 NIH R01, \$15,709, "Exact simulation-based multiple comparisons" (P.I.)

PUBLICATIONS

BOOKS:

- Spurrier, John D., Don Edwards, and Lori A. Thombs (1999). *Statistics: Learning by Doing*. Long Beach, NY: Whittier.
- Spurrier, John D., Don Edwards, and Lori A. Thombs (1995). *Elementary Statistics Laboratory Manual*. (separate versions for MS-DOS and Macintosh; also, Instructor's Manual). Belmont, CA: Duxbury Press.

JOURNAL ARTICLES (SELECTED FROM 64):

A. STATISTICAL THEORY, METHODS, AND EDUCATION:

- Autin, Melanie and Edwards, Don "Nonparametric Harmonic Regression for Estuarine Water Quality Data". Submitted.
- Nelson, Kerrie, Don Edwards, Teodor Gamishev, and Roumen Kozarev. "On population-based measures of agreement". Accepted for publication, *Canadian Journal of Statistics*.
- Ignatova, Iliana and Edwards, Don. "Probe Samples and the Minimum Sum Method for Medicare Fraud Investigations". Accepted for publication, *Health Services and Outcomes Research*
- Parody, Robert and Edwards, Don (2007) "Confident Exploratory Visualization Techniques for Improvement in High Dimensional Response Surfaces". *International Journal of Statistics and Management Systems*, 1:112-129.
- Parody, Robert and Edwards, Don (2007). "Simulation-Based Inference on the Improvement in a Rotatable Response Surface". *QTQM*, 4: 489-499.
- Edwards, Don, G.Ward-Besser, J.Lasecki, B.Parker, K.Wieduwilt, F.Wu, and P.Moorhead (2005). "The Minimum Sum Method: a Distribution-Free Sampling Procedure for Medicare Fraud Investigations". *Health Services and Outcomes Research Methodology* 4: 241-263.
- Edwards, Don (2005). "On 'False Discovery Rate-Adjusted Multiple Confidence Intervals for Selected Parameters' ". invited comment, *Journal of the American Statistical Association* 100, 81.
- Street, W. Scott IV, Don Edwards, Robert J. Feller, Bruce C. Coull, and Stephen E. Stancyk (2003). "Mixed-Model Splines for Environmental Time Series". *Environmetrics* 14: 643-649.
- Piegorsch, W.W. and Edwards, Don (2002). "What shall we teach in environmental statistics?", with 9 comments and rejoinder. *Environmental and Ecological Statistics* 9, 125-150.
- McCann, Melinda and Edwards, Don (2000). "A hybrid method for improved critical points for multiple comparisons". *Communications in Statistics: Simulation and Computation* 29(3): 703-722.
- Merchant, Aparna, M.McCann and D. Edwards (1998). "Improved multiple comparisons with a control in response surface analysis". *Technometrics* 40, 297-303.
- Piegorsch, Walter W., E.P.Smith, D.Edwards, and R.L.Smith (1998). "Statistical advances in environmental science." *Statistical Science* 13, 186-208.
- McCann, Melinda and Edwards, Don (1996), "A path-length inequality for the multivariate-t distribution, with applications to multiple comparisons". *Journal of the American Statistical Association* 91, 211-216.
- Sa, Ping and Edwards, Don (1993), "Multiple comparisons with a control in response surface methodology." *Technometrics* 35, 436-445.
- Edwards, Don and Berry, Jack J. (1987), "The efficiency of simulation-based multiple comparisons". *Biometrics* 43, 913-928.
- Edwards, Don (1987), "Extended-Paulson sequential selection". *Annals of Statistics* 15, 449-455.
- Spurrier, John D. and Edwards, Don (1986), "An asymptotically optimal subclass of the balanced treatment incomplete block designs for comparisons with a control." *Biometrika* 73, 191-199.
- Edwards, Donald G. and Hsu, J.C. (1983), "Multiple comparisons with the best treatment." *Journal of the American Statistical Association* 78, 965-971.
- Hsu, J.C. and Edwards, Donald G. (1983), "Sequential multiple comparisons with the best." *Journal of the American Statistical Association* 78, 958-964.

B. INTERDISCIPLINARY RESEARCH

- Edwards, Don, Hurley, Dorset, and Wenner, Elizabeth L. (2005). Nonparametric Harmonic Analysis of Estuarine Water Quality Data: a National Estuarine Research Reserve Case Study. *Journal of Coastal Research* Special Issue #45, 75-92.
- Sanger, D.M., M.D. Arendt, Y. Chen, E.L. Wenner, A.F. Holland, D. Edwards and J. Caffrey (2002). A Synthesis of Water Quality Data: National Estuarine Research Reserve System-wide Monitoring Program (1995-2000). National Estuarine Research Reserve Technical Report Series 2002: 3. South Carolina Department of Natural Resources, Marine Resources Division Contribution No. 500. 135 p.
- Dame, R., D. Bushek, D. Allen, E. Koepfler, A. Lewitus and D. Edwards. (2002). "Ecosystem response to bivalve density reduction: management implications." *Aquatic Ecology*, **36**:51-65.
- Edwards, D. (2000). Data Quality Assurance. Pages 70-91 in W. K. Michener and J. Brunt., editors. *Ecological Data: Design, Processing and Management*. Blackwell Science Ltd., London, UK.
- Dame, R., D. Bushek, D. Allen, D. Edwards, L. Gregory, A. Lewitus, S. Crawford, E. Koepfler, C. Corbett, B. Kjerfve, and T. Prins. (2000). "The experimental analysis of tidal creeks dominated by oyster reefs: the pre-manipulation year", *Journal of Shellfish Research* **19**: 361-369.
- White, D. L., D. Bushek, D. E. Porter, and D. Edwards (1999). "Geographic Information Systems (GIS) and kriging: analysis of the spatial and temporal distributions of the oyster pathogen *Perkinsus Marinus* in a developed and an undeveloped estuary", *J. Shellfish Res.* **17**: 1473-1476.
- Palik, B.J., W.K. Michener, R.J. Mitchell, and D. Edwards (1999). "Flooding and longleaf pine mortality: effects of ecosystem disturbance on population structure." *Ecoscience* **6**, 255-263.
- Edwards, Don (1998). "Data Quality Control / Quality Assurance" In: *Data and Information Management in the Ecological Sciences: A Resource Guide* (W.K. Michener, J.H. Porter, and S.G. Stafford, Eds.), 33-40. University of New Mexico, Albuquerque.
- Kirkman, K., M. Drew and D. Edwards (1998). "Effects of experimental fire regimes on the population dynamics of *Schwalbea americana* L." *Plant Ecology* **137**: 115-137.
- Edwards, Don (1998). "Comment: issues and themes for natural resource trend and change detection." *Ecological Applications* **8**, 323-325.
- Porter, D.E., D. Edwards, G. Scott, B. Jones, and W.S. Street, IV (1997). "Assessing the impacts of anthropogenic and physiographic influences on grass shrimp in localized salt marsh estuaries: a multidisciplinary approach". *Aquatic Botany* **58**, 289-306.
- Little, Laurie S., D. Edwards, and D.E. Porter (1997). "Kriging in estuaries: as the bird flies, or as the fish swims?". *J. Exp. Mar. Biol. Ecol.* **213**, 1-11.
- Edwards, Don, R.J. Feller, S.E. Stancyk, and B.C. Coull. (1997) "On seasonal and interannual zooplankton and benthos dynamics". In: *Change in marine benthos: the case for long term studies*. (P.T.D. Lamshead, B.F. Keegan, and B.C. Coull Eds.), 117-136. Commission of the European Communities.
- Allen, Dennis M., D. Edwards, R.J. Feller, S.E. Hutchinson, and V. Ogburn-Matthews (1997). "Detection and analysis of unusual events in long-term zooplankton and nekton data sets from North Inlet Estuary, South Carolina, USA". *Oceanologica Acta* **20**, 165-175.
- Edwards, Don. (1996). "Comment: The first data analysis should be journalistic." *Ecological Applications* **6**, 1090-1094.
- Scholz, Paul M., D. Edwards, R.C. Palm, Jr. and J.M. Dean (1994), "Use of a quadratic response model to estimate optimum combinations of nutritional variables." *Transactions of the American Fisheries Society* **123**, 266-272.
- Gardner, L.R., L. Thombs, D. Edwards, and D. Nelson (1989), "Time series analyses of suspended sediment concentrations at North Inlet, SC". *Estuaries* **12**, 211-221.
- Edwards, Don and Coull, B.C. (1987). "Autoregressive trend analysis: an example using long-term ecological data". *Oikos* **50**, 95-102.
- Sugimoto, Tai and Edwards, Don (1987). "Incidence and costs of incidental appendectomy as a preventive measure". *American Journal of Public Health* **77**, 471-475.

PRESENTATIONS

A. INVITED (SELECTED FROM 15)

- Ninth Annual Medicare Statistics and Data Analysis Conference, Indianapolis, IN, November 2005: “The Minimum Sum Method for Audited Payment Populations”. Keynote address.
- National Estuarine Research Reserve Research Coordinators’ Meeting, Sapelo Island, GA, February 2001: “Cyclicality in Water Quality Indicators at National Estuarine Research Reserve (NERR) Sites”.
- Joint Statistical Meetings, August 2000. Invited Discussant for Session on Distance Education.
- ENAR Spring regional meeting, March 2000. Invited Discussant for Theme Session, “Remodeling Biometrics” (speaker C.E. McCulloch).
- Data and Information Management in the Ecological Sciences, Albuquerque, N.M. August 1997. “Data quality assurance / quality control”.
- ASA/EPA/ESA/SBI Workshop on Ecological Resource Modeling: Change and Trend Detection, Laurel, Maryland May 1996. Lead Discussant, aquatic (all talks).
- ASA/EPA Workshop on Environmental Monitoring Programs, Washington, DC March 1996. “Current Programs,” with T.Olsen, J.Sedrask, C.Gotway, S.Rathbun, L.Young.
- Joint European/American Workshop on Long Term Study Influences on Science and Policy, Galway, Ireland, May 1994. "On Seasonal and Interannual Zooplankton and Benthos Dynamics". with R.J. Feller, S.E. Stancyk, and B.C. Coull.

B. CONTRIBUTED PAPERS AND SEMINARS (SELECTED FROM 80)

- USC Dept. of Statistics Colloquium, September 2007. “Exact Acceptance Sampling: Sequential and Multistage Methods for Dichotomous Response Data”
- USC Dept. of Statistics Colloquium, April 2003. “The Minimum Sum Method for Audited Payment Populations”
- Joint Statistical Meetings, New York City, August 2002. “The Integrated Michaelis-Menten Model”
- College of Charleston, February 2002. “Quantifying Cyclicality in Water Quality Indicators at National Estuarine Research Reserve sites”.
- South Carolina Governor’s School for Science and Mathematics, January 2001. “Environmetrics”.
- USC Dept. of Statistics Colloquium, October 2000. “Cyclicality in Water Quality Indicators at National Estuarine Research Reserve (NERR) Sites” (with Carl Miller and Megan Meece).
- Ohio State University Statistics Department Silver Anniversary conference, October 1999. “Multiple Comparisons with the Best in Response Surface Methodology”.
- CREEK student seminar, Baruch Marine Lab, July 1998. “Some first-year analyses on CREEK water chemistry data”
- SECOR, Savannah, GA March 1998. “Alternatives to the Paired t-Test for testing Spatial Change”
- CREEK student seminar, Baruch Marine Lab, July 1997. “Green’s ten principles and the CREEK study design: how do we grade out?”
- Benedict Precollege Statistics Project, Benedict College SC, July 1997. “Applications of Statistics in Ecology”.
- University of Florida, Department of Statistics, April 1996. “Moldy soccer balls, circus balloon animals, and multiple comparisons,” with Melinda McCann.
- Estuarine Reserve Federation, Corpus Christi, Texas, November 1995. “Kriging in estuaries: as the crow flies, or as the fish swims?” With L.S.Little and D.Porter.
- Ecological Society of America meeting, Snowbird, Utah, August 1995. “Unusual events in ecological time series”. With S.Hutchinson, D.A. Allen, V.Ogburn-Baker, and R.J. Feller.
- Oklahoma State University, Department of Statistics, March 1995. "A multiple comparisons update".
- Joseph W. Jones Ecological Research Center, Ichauway, Ga. Feb 1994. "Isn't that spatial: an introduction to kriging, featuring Splus® software".

OTHER HONORS:

Ohio State University College of Arts and Sciences Outstanding Senior Award, 1977
Outstanding Chapter Member for 1984-89, S.C. Chapter of the American Statistical Association.

PROFESSIONAL MEMBERSHIPS AND OFFICES HELD:

American Statistical Association, from 1978.
Ecological Society of America, from 1989-99.
Statistical Ecology Section Secretary-Treasurer 1992-94, Vice-Chair 1995-97, Chair 1997-99.
SC Chapter of the American Statistical Association, from 1981.
Sec.-Treas., 1983; V.P., 1983-84; Pres.-Elect, 1984-85; Council Rep., 1984-86; President, 1985-86. SC
Region II Science Fair Judge and/or Presenter (yearly) 1985-.
Mu Sigma Rho (national honorary society for Statistics)
National Vice-President 1991-94; President 1994-97; co-organizer College Bowl 1996-97, Stat Bowl
2003; Council Rep 2000-.
ASA Section on Statistics and the Environment
Environmental Monitoring and Natural Resources Assessment Committee 1995-96, Distinguished
Achievement Medal Committee 2000-01, Representative to the ASA Council of Sections 2003-05.
ASA Caucus of Institutional Representatives: Treasurer, 2008-;

SELECTED COMMITTEE SERVICE:

USC Statistics Program/Department
Chair, 2005-.
Nonparametric Conference Committee, 2006-07.
Assistant Graduate Director for Part-time and Distant Students 2002-05
Assistant Chair / Graduate Director 1996-2002
Undergraduate Director 1995-96.
Computer Committee (Chair) 1989-95.
Graduate Advisory Committee, 1987-2003, 2005-.
Director, Statistical Laboratory, 1983-87.
USC School of the Environment Education Committee, 1996-.
USC University Committee on Tenure and Promotions, 2003-05.
USC Grad Council 1997-2000; Chair, Curriculum subcommittee for Science, Engineering, and Related
Professional Programs 1998-2000.
USC Curriculum and Courses Committee, 1997-2000.

REVIEWER FOR (SELECTED):

Ecology; Ecological Monographs; Ecoscience; Journal of Agricultural, Biological, and Ecological Statistics;
Journal of the American Statistical Association; Journal of Experimental Marine Biology and Ecology;
Journal of Glaciology; Journal of the Royal Statistical Society, Series B; Journal of Statistics Education;
Journal of Statistical Planning and Inference; Mathematical Geology; Statistical Science; Technometrics;
The American Naturalist; The American Statistician; The Annals of Statistics.

PERSONAL DATA:

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Contact: edwards@stat.sc.edu, (803) 777-5070 (voice); (803) 777-4048 (fax).
Internet: <http://www.stat.sc.edu/~edwards>