

## CURRICULUM VITAE

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**DATE OF BIRTH** April 21, 1949

## EDUCATION

Ph.D., Purdue University, 1974. Major Advisor: S. S. Gupta  
B.A., University of Texas at Austin, 1971 (Summa cum laude)

## EXPERIENCE

July 1987-on: Distinguished Professor (since 1997) of Statistics, Nutrition and Toxicology (Head of Statistics Department, 1987-90), Texas A&M University.  
June 2010-present: Director, Texas A&M Institute for Applied Mathematics and Computational Science (Deputy Director 2008-2010).  
March 2007-August 2010: Director, Texas A&M Center for Statistical Bioinformatics  
July 1998-December 2000: Fairhill Professor of Biostatistics and Epidemiology, University of Pennsylvania.  
July 1974-August 1987: Assistant, Associate and Full Professor, University of North Carolina.  
November 1980-August 1982, July 1990-July 1991, February 1997-August 1997: Visiting Scientist, National Institutes of Health (Guest Researcher, N.C.I., July 1991-present).  
May-August 1987, February-May 1991, May-July 2000, May-July 2002, May-July 2005: Visiting Professor, Australian National University.  
July 1984-December 1984: Visiting Professor, University of Wisconsin.  
May 1980-November 1980: Visiting Professor, Institute for Applied Mathematics, University of Heidelberg, Germany.

## HONORS

Honorary doctorate, Institut de Statistique, Universit Catholique de Louvain, 2012.  
Chair, American Statistical Association Section on Nonparametric Statistics, 2012.  
MERIT Award, National Cancer Institute, 2005-2015.  
Journal of Nonparametric Statistics Best Paper Award, 2010.  
National Institutes of Health Award of Merit for research on dietary assessment, 2008.  
International Biometric Society *Best Paper in Biometrics by an IBS Member* for 2008.  
Distinguished Achievement Award in Research, Texas A&M University Association of Former Students, 2004.  
Teaching Award, College of Science, Texas A&M University, 2003.

**HONORS (continued)**

- Jerome Sacks Award for Cross-Disciplinary Research (from the National Institute of Statistical Sciences), 2003.
- Mitchell Prize for Bayesian Statistics, 2003 (from the International Society for Bayesian Analysis).
- Fisher Lecture, Committee of Presidents of Statistical Societies (COPSS), 2002. Given annually for “scholarship in statistical science and for highly significant impact of statistical methods on scientific investigations”.
- Founding Chair, NIH Study section on Biostatistics (BMRD), 2002-2004.
- IMS Special Invited Paper, 2000.
- Snedecor Award from COPSS for best paper in Biometry, 1997.
- JASA Applications Editor’s Invited Paper, 1997, 2003.
- Alexander von Humboldt Senior Research Award, 1996.
- Outstanding Achievement Award for Promoting Diversity, Texas A&M University, 1996.
- Outstanding Presentation Award, Society of Toxicology Annual Meeting, Risk Assessment Specialty Section, 1995.
- President’s Invited Address, 1995 ENAR Spring Meeting.
- Bernard Greenberg Lecturer, University of North Carolina at Chapel Hill, 1994.
- Distinguished Alumnus, Purdue University, 1994.
- Don Owen Award, 1994.
- Distinguished Achievement Award in Research, Texas A&M University Association of Former Students, 1994.
- Distinguished Lecturer in Statistics, Australian Graduate School of Management, 1991.
- Ordinary Member, International Statistical Institute, elected 1991.
- COPSS President’s Award (IMS, ASA, ENAR, WNAR, CSS), 1988. Given annually by the major North American statistical societies to a statistician under the age of 40 for outstanding achievements in research.
- Wilcoxon Prize, American Society for Quality Control, 1986.
- Fellow, Institute of Mathematical Statistics, elected 1984.
- Fellow, American Statistical Association, elected 1982.
- Sigma Xi, Purdue University Chapter, elected 1975.
- Phi Beta Kappa, University of Texas at Austin, elected 1971.

**NAMED LECTURES**

- Gentry Lectures, Wake Forest University, 2011.
- Oderoff Lecture, University of Rochester, 2010.
- Mitchell Lectures, University of Glasgow, 2009.
- University of Florida Challis Lectures, 2006.
- Centers for Disease Control (CDC) Statistical Science Awards Lecture, 2006.
- Sobel Lecturer, University of California at Santa Barbara, 2006.
- Bohrer Lecturer, University of Illinois, 2006.
- Bradley Lecturer, University of Georgia, 2006.

**NAMED LECTURES (continued)**

Buehler-Martin Lecturer, University of Minnesota, 2005.

Rustagi Lecturer, Ohio State University, 2005.

Myra Samuels Lecturer, Purdue University, 1999.

Distinguished Lecturer in Statistics, Australian Graduate School of Management, 1991.

**EDITORIAL RESPONSIBILITIES**

Editor, *Biometrics* (1997-2001).

Editor, *Journal of the American Statistical Association*, Theory and Methods Section (1988-1990).

Coordinating Editor, *Journal of Statistical Planning and Inference* (1992-98).

co-editor, Oxford Statistical Science Series, 2000-present.

co-Editor (with J. Copas, D. Hand and R. L. Smith), *Royal Statistical Society Lecture Note Series* (1995-99).

Associate Editor, *Journal of the American Statistical Association*, Theory and Methods Section, (1979-1987, 2005-present), Applications Section (1992-1995), *Annals of Statistics* (1983-1988), *Chemometrics and Intelligent Laboratory Systems* (1986-92), *Journal of Environmental Statistics* (1992-), *Statistica Sinica* (1993-1998 and 2010-present) and *Statistics* (1987-2000).

**RESEARCH GRANTS AND SPECIAL CONSULTING PROJECTS**

National Cancer Institute (CA-57030), support for basic research, *Measurement Error, Nutrition and Breast/Colon Cancer*, 1992-present (P.I.). Funded through 2015 via a MERIT Award.

National Cancer Institute (CA-90301), support for training program in *Biostatistics, Bioinformatics and the Biology of Nutrition and Cancer*, 2001-present (P.I.). Funded through 2016.

King Abdullah University of Science and Technology (KAUST, P.I.): support for the funding of the Texas A&M University Institute of Applied Mathematics and Computational Science. Funded through 2014.

National Science Foundation, co-investigator on *Bayesian Data Mining Approaches for Biological Threat Detection* (B. Mallick, P.I.), funded through 2012.

National Institute of General Medical Sciences (GM-077490), P.I. on a subcontract from the University of Alabama at Birmingham, *Genome-wide Structured Association Testing and Regional Admixture Mapping*, 2006-2011.

National Institute of Environmental Health Sciences, P.I. for Biostatistics and Epidemiology Research Core, Center for Environmental and Rural Health, 1997-2007.

Consultant, STATA Corporation SBIR grant for development of programs for haplotype-based gene-environment interaction case-control studies, 2007-2012.

Panel member, National Cancer Institute Review Group Subcommittee G - Education, 2007-2010.

Panel member, NIH State of the Science Conference on Multivitamin/Mineral Supplements and Chronic Disease Prevention, May 2006.

National Cancer Institute (CA-61067), support for developing computer software in measurement error models, 1993-97 (P.I.).

Consultant, STATA Corporation SBIR grant for development of measurement error analysis programs.

Consultant, Eli Lilly Research Laboratories, 1998-2004.

EPA contract to develop computer programs for toxicological risk assessment, 1993-96.

National Institute of Statistical Sciences, support for toxicology research, 1992-1998.

Texas Natural Resources Conservation Commission, 1994-1995.

National Institute of General Medical Sciences, support for basic research, 1989-1992.

**RESEARCH GRANTS AND SPECIAL CONSULTING PROJECTS (Continued)**

- Air Force Office of Scientific Research, support for basic research, Consultant, Los Alamos National Laboratory, 1993-2000.
- Consultant, Finnegan, Henderson Attorneys, Washington D.C., 1991-92.
- Consultant, Becton-Dickenson Research Center, 1985-1988.
- Member, National Academy of Science Panel on the Effects of Youth Employment Programs, 1983-1986.
- Consultant, National Bureau of Standards, 1984-1987.
- Consultant, Framingham Heart Study, Diagnostic Assessment by Noninvasive Procedures, 1983.
- Consultant, Covington and Burling Attorneys, Washington, D.C., 1983-1987.
- Advisor, Ad Hoc Committee on Biobehavioral Approaches to Control of Hypertension. National Heart, Lung and Blood Institute, 1982.
- Member, Policy Advisory Board, the PDA Study (Patency of the Ductus Arteriosus), a clinical trial funded by the National Heart, Lung and Blood Institute involving prematurely born infants, 1980-1981.
- Statistical Advisor for the clinical trial IPPB (Intermittent Positive Pressure Breathing) involving lung function and funded by the National Heart, Lung and Blood Institute, 1980-1982.
- North Carolina State Department of Fisheries, contract grants for prediction of shrimp harvest, 1977-78; models for menhaden harvest and migration patterns, 1980-1982.
- Centers for Disease Control (Atlanta), special consultant to the SENIC Project to study the control of nosocomial infection, 1978-1980.

**BOOKS**

- Carroll, R. J. and Ruppert, D. (1988). *Transformation and Weighting in Regression*. Chapman and Hall, London.
- Carroll, R. J., Ruppert, D. and Stefanski, L. A. (1995). *Measurement Error in Nonlinear Models*. Chapman & Hall, London.
- Ruppert, D., Wand, M. P. and Carroll, R. J. (2003). *Semiparametric Regression*. Cambridge University Press.
- Carroll, R. J., Ruppert, D., Stefanski, L. A. and Crainiceanu, C. M. (2006). *Measurement Error in Nonlinear Models: A Modern Perspective*, Second Edition. Chapman and Hall CRC Press.
- Liang, F., Liu, C. and Carroll, R. J. (2010). *Advanced Markov Chain Monte Carlo: Learning from Past Samples*. Wiley, New York. ISBN: 978-0-470-74826-8.

**PUBLICATIONS**

- [1] Johnson, N. L., Wegman, E. J. and Carroll, R. J. (1975). Report on a research study to determine the effects of class openness and the effects of kindergarten experience on selected student measures. Submitted as a public document to the North Carolina State Board of Education.
- [2] Carroll, R. J. (1975). Density estimation at unknown points and tail orderings. *Communications in Statistics*, 4, 565-574.
- [3] Carroll, R. J., Gupta, S. S. and Huang, D. Y. (1975). Selection procedures for the t-best populations. *Communications in Statistics*, 4, 987-1008.
- [4] Carroll, R. J. (1976). On sequential density estimation. *Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete*, 36, 137-151.
- [5] Wegman, E. J. and Carroll, R. J. (1976). Final Report: General description of the sample for the North Carolina assessment of educational progress of ninth grade students. Submitted as a public document to the North Carolina State Department of Public Instruction.

- [6] Carroll, R. J. and Gupta, S. S. (1977). On the probabilities of rankings of k populations with applications. *Journal of Statistical Computation and Simulation*, 5, 145-157.
- [7] Hawkins, D., Carroll, R. J. and Wegman, E. J. (1977). Final Report: The 1976-77 North Carolina assessment of educational progress of third grade students. Submitted as a public document to the North Carolina State Department of Public Instruction.
- [8] Carroll, R. J. (1977). On the asymptotic normality of stopping times based on robust estimates. *Sankhya, Series A*, 355-377.
- [9] Wegman, E. J. and Carroll, R. J. (1977). A Monte-Carlo study of robust estimators of location. *Communications in Statistics*, 6, 795-812.
- [10] Carroll, R. J. (1977). A comparison of two approaches to fixed-width confidence interval estimators. *Journal of the American Statistical Association*, 72, 901-907.
- [11] Carroll, R. J. (1977). On the uniformity of sequential procedures. *Annals of Statistics*, 5, 1039-1046.
- [12] Carroll, R. J. (1978). On almost sure expansion for M-estimates. *Annals of Statistics*, 6, 314-318.
- [13] Carroll, R. J. (1978). Sequential confidence intervals for the mean of a subpopulation of a finite population. *Journal of the American Statistical Association*, 73, 408-413.
- [14] Carroll, R. J. (1978). On the asymptotic distribution of multivariate M-estimates. *Journal of Multivariate Analysis*, 8, 361-371.
- [15] Carroll, R. J. (1979). On sequential elimination procedures. *Sankhya, Series B*, 41, 226-238.
- [16] Carroll, R. J. (1979). Estimating variances of robust estimators when the errors are asymmetric. *Journal of the American Statistical Association*, 74, 674-679.
- [17] Carroll, R. J. (1979). On sequential estimation of the largest normal mean. *Sankhya, Series A*, 40, 294-302.
- [18] Carroll, R. J. (1980). A robust method for testing transformations to achieve approximate normality. *Journal of the Royal Statistical Society, Series B*, 42, 71-78.
- [19] Ruppert D. and Carroll, R. J. (1980). Trimmed least squares estimation in the linear model. *Journal of the American Statistical Association*, 77, 828-838.
- [20] Holt, R. N. and Carroll, R. J. (1980). Classification of commercial bank loans through policy capturing. *Accounting, Organizations and Society*, 5, 285-296.
- [21] Carroll, R. J. (1980). Robust methods for factorial designs with outliers. *Applied Statistics*, 29, 246-251.
- [22] Carroll, R. J. and Ruppert, D. (1981). On robust tests for heteroscedasticity. *Annals of Statistics*, 9, 206-210.
- [23] Carroll, R. J. and Ruppert, D. (1981). Prediction and the power transformation family. *Biometrika*, 68, 609-616.
- [24] Haley, R. W., Carroll, R. J. et al. (1981). The joint associations of multiple risk factors with the occurrence of nosocomial infections. *American Journal of Medicine*, 70, 960-790.
- [25] Briles, D. G. and Carroll, R. J. (1981). A simple method for estimating the number of different antibodies by examining the repeat frequencies of the sequences of isoelectric focusing patterns. *Molecular Immunology*, 18, 29-38.
- [26] Carroll, R. J. (1982). Two examples of transformations when there are possible outliers. *Applied Statistics*, 31, 149-152.
- [27] Carroll, R. J. and Ruppert, D. (1982). Robust estimation in heteroscedastic linear models. *Annals of Statistics*, 10, 429-441.

- [28] Carroll, R. J. and Ruppert, D. (1982). A comparison between maximum likelihood and generalized least squares in a heteroscedastic linear model. *Journal of the American Statistical Association*, 77, 878-882.
- [29] Carroll, R. J. (1982). Robust estimation in certain heteroscedastic linear models when there are many parameters. *Journal of Statistical Planning and Inference*, 7, 1-12.
- [30] Carroll, R. J. (1982). Adapting for heteroscedasticity in linear models. *Annals of Statistics*, 10, 1224-1233.
- [31] Carroll, R. J. (1982). Power transformations when the choice of power is restricted to a finite set. *Journal of the American Statistical Association*, 77, 908-915.
- [32] Carroll, R. J., Ruppert, D. and Holt, R. N. (1982). Some aspects of estimation in heteroscedastic linear models. *Statistical Decision Theory and Related Topics III*, Volume I. Editors, S. S. Gupta and J. O. Berger. Academic Press, New York.
- [33] Carroll, R. J. and Gallo, P. P. (1982). Some aspects of robustness in functional errors-in-variables regression models. *Communications in Statistics, Series A*, 11, 2573-2585.
- [34] Carroll, R. J. and Ruppert, D. (1982). Weak convergence of bounded influence regression estimates with applications to repeated significance tests in clinical trials. *Journal of Statistical Planning and Inference*, 7, 117-129.
- [35] Carroll, R. J. (1983). Tests for regression parameters in power transformation models. *Scandinavian Journal of Statistics*, 9, 217-222.
- [36] Carroll, R. J. (1983). Discussion of Huber's paper "Minimax aspects of bounded influence regression." *Journal of the American Statistical Association*, 78, 78-79.
- [37] Holt, R. N., Scarpello, V. and Carroll, R. J. (1983). Towards understanding the contents of the "Black Box" for predicting complex decision making outcomes. *Decision Sciences*, 14, 1253-1269.
- [38] Carroll, R. J. and Ruppert, D. (1983). Robust estimation in random coefficient regression models. *Contributions to Statistics: Essays in Honour of Norman L. Johnson*, P. K. Sen, ed., North Holland.
- [39] Oberpriller, J. O., Ferans, V. J. and Carroll, R. J. (1983). Changes in DNA content, number of nuclei and cellular dimensions of young rat atrial myocytes in response to left coronary artery ligation. *Journal of Molecular and Cellular Cardiology*, 14, 31-42.
- [40] Ruppert, D., Reish, R. L., Deriso, R. B. and Carroll, R. J. (1984). Monte-Carlo optimization by stochastic approximation, with application to harvesting of Atlantic menhaden. *Biometrics*, 40, 353-546.
- [41] Carroll, R. J. and Ruppert, D. (1984). Power transformations when fitting theoretical models to data. *Journal of the American Statistical Association*, 79, 321-328.
- [42] Carroll, R. J., Spiegelman, C., Lan, K. K., Bailey, K. T. and Abbott, R. D. (1984). On errors-in-variables for binary regression models. *Biometrika*, 71, 19-26.
- [43] Abbott, R. D. and Carroll, R. J. (1984). Interpreting multiple logistic regression coefficients in prospective observational studies. *American Journal of Epidemiology*, 119, 830-836.
- [44] Carroll, R. J. and Ruppert, D. (1984). Discussions of Hinkley and Runger's paper "The Analysis of Transformed Data." *Journal of the American Statistical Association*, 79, 312-313.
- [45] Carroll, R. J. and Gallo, P. P. (1984). Comparisons between maximum likelihood and method of moments in a linear errors-in-variables regression model. *Design of Experiments: Ranking and Selection*, T. J. Santner and A. C. Tamhane, eds., Marcel Dekker, New York.
- [46] Oberpriller, J. O., Ferrans, V. J. and Carroll, R. J. (1984). DNA synthesis in rat atrial myocytes as a response to left ventricular infarction. *Journal of Molecular and Cellular Cardiology*, 16, 1119-1126.
- [47] Carroll, R. J. and Ruppert, D. (1985). Transformations: a robust analysis. *Technometrics*, 27, 1-12.

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- [49] Stefanski, L. A. and Carroll, R. J. (1985). Covariate measurement error in logistic regression. *Annals of Statistics*, 13, 1335-1351.
- [50] Carroll, R. J. and Lombard, F. (1985). A note on N-estimators for the binomial distribution. *Journal of the American Statistical Association*, 80, 423-426.
- [51] Carroll, R. J. and Schneider, H. (1985). A note on Levene's test for heteroscedasticity. *Statistics and Probability Letters*, 3, 191-194.
- [52] Ruppert, D., Reish, R. L., Deriso, R. B. and Carroll, R. J. (1985). A stochastic model for managing the Atlantic menhaden fishery and assessing managerial risks. *Canadian Journal of Fisheries and Aquatic Sciences*, 42, 1371-1379.
- [53] Carroll, R. J., Gallo, P. P. and Gleser, L. J. (1985). Comparison of least squares and errors-in-variables regression, with special reference to randomized analysis of covariance. *Journal of the American Statistical Association*, 80, 929-932.
- [54] Hollister, R. M., Carroll, R. J. and the Panel on Youth Employment (1985). *Youth Employment and Training Programs: The YEPDA Years*. National Academy of Sciences Press, Washington, D.C.
- [55] Ruppert, D. and Carroll, R. J. (1985). Data transformations in regression analysis with applications to stock recruitment relationships. In *Resource Management: Lecture Notes in Biomathematics* 61, M. Mangel editor, Springer Verlag, New York.
- [56] Abbott, R. D. and Carroll, R. J. (1986). Conditional regression models for transient state survival analysis. *American Journal of Epidemiology*, 121, 278-735.
- [57] Stefanski, L. A., Carroll, R. J. and Ruppert, D. (1986). Optimally bounded score functions for generalized linear models, with applications to logistic regression. *Biometrika*, 73, 413-425.
- [58] Giltinan, D. M., Carroll, R. J. and Ruppert, D. (1986). Some new methods for weighted regression when there are possible outliers. *Technometrics*, 28, 219-230.
- [59] Carroll, R. J. and Spiegelman, C. H. (1986). The effect of small measurement error on precision instrument calibration. *Journal of Quality Technology*, 18, 170-173.
- [60] Carroll, R. J. and Ruppert, D. (1986). Discussion of Wu's paper "Jackknife, bootstrap and other resampling plans". *Annals of Statistics* 14, 1298-1301.
- [61] Gleser, L. J., Carroll, R. J. and Gallo, P. P. (1987). The limiting distribution of least squares in an errors-in-variables linear regression model. *Annals of Statistics*, 15, 220-233.
- [62] Simpson, G. D., Carroll, R. J. and Ruppert, D. (1987). M-estimation for discrete data: Asymptotic distribution theory and implications. *Annals of Statistics*, 15, 657-669.
- [63] Carroll, R. J. and Ruppert, D. (1987). Diagnostics and robustness for the transform-both-sides approach to nonlinear regression. *Technometrics*, 29, 287-299.
- [64] Watters, R. L., Carroll, R. J. and Spiegelman, C. H. (1987). Error modeling and confidence interval estimation for inductively coupled plasma calibration curves. *Analytical Chemistry* 59, 1639-1643.
- [65] Davidian, M. and Carroll, R. J. (1987). Variance function estimation. *Journal of the American Statistical Association*, 82, 1079-1092.
- [66] Stefanski, L. A. and Carroll, R. J. (1987). Conditional scores and optimal scores in generalized linear measurement error models. *Biometrika*, 74, 703-716.
- [67] Carroll, R. J. (1988). The effects of variance function estimation on prediction and calibration: an example. *Statistical Decision Theory and Related Topics IV, Volume 2*, ed. S. S. Gupta and J. O.

- Berger. Springer-Verlag, New York.
- [68] Carroll, R. J. and Cline, D. B. H. (1988). An asymptotic theory for weighted least squares with weights estimated by replication. *Biometrika*, 75, 35-43.
  - [69] Wu, M. C. and Carroll, R. J. (1988). Estimation and comparison of changes in the presence of informative right censoring by modeling the censoring process. *Biometrics*, 44, 175-188.
  - [70] Davidian, M. and Carroll, R. J. (1988). A note on extended quasilikelihood estimation. *Journal of the Royal Statistical Society, Series B*, 50, 74-82.
  - [71] Carroll, R. J., Sacks, J. and Spiegelman, C. H. (1988). A new, easy to use multiple calibration curve procedure. *Technometrics*, 30, 137-142.
  - [72] Street, J. O., Ruppert, D. and Carroll, R. J. (1988). A note on computing robust regression estimates via iteratively reweighted least squares. *American Statistician*, 42, 152-154.
  - [73] Davidian, M., Carroll, R. J. and Smith, W. (1988). Variance functions and the minimum detectable concentration in assays. *Biometrika*, 75, 549-556.
  - [74] Carroll, R. J., Wu, C. F. J. and Ruppert, D. (1988). The effect of estimating weights in linear regression. *Journal of the American Statistical Association*, 83, 1045-1054.
  - [75] Carroll, R. J. and Ruppert, D. (1988). Discussion of Box's paper. *Technometrics*, 30, 30-31.
  - [76] Carroll, R. J. and Härdle, W. (1988). Symmetrized nearest neighbor estimates. *Letters in Statistics and Probability*, 7, 315-318.
  - [77] Carroll, R. J. and Hall, P. (1988). Optimal rates of convergence for deconvolving a density. *Journal of the American Statistical Association*, 83, 1184-1186.
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  - [79] Carroll, R. J. and Härdle, W. (1989). Second order effects in semiparametric weighted least squares regression. *Statistics*, 20, 179-186.
  - [80] Hall, P. and Carroll, R. J. (1989). Variance function estimation in regression: the effect of estimating the mean. *Journal of the Royal Statistical Society, Series B*, 51, 3-14.
  - [81] Carroll, R. J. (1989). Covariance analysis in generalized linear measurement error models. *Statistics in Medicine*, 8, 1075-1093.
  - [82] Künsch, H. R., Stefanski, L. A. and Carroll, R. J. (1989). Conditionally unbiased bounded influence estimation in general regression models, with applications to generalized linear models. *Journal of the American Statistical Association*, 84, 460-466.
  - [83] Ruppert, D., Cressie, N. and Carroll, R. J. (1989). A transformation/weighting model for estimating Michaelis-Menten parameters. *Biometrics*, 45, 637-656.
  - [84] Rowe, D. E., Carroll, R. J. and Day, C. L. (1989). Long term recurrence rates in previously untreated (primary) basal cell carcinoma: implications for patient followup. *The Journal of Dermatologic Surgery and Oncology*, 15, 315-327.
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  - [87] Carroll, R. J. and Welsh, A. H. (1989). A note on asymmetry and robustness in linear regression. *The American Statistician*, 42, 285-287.

- [88] Carroll, R. J. and Hall, P. (1990). Nonparametric estimation of optimal performance criteria in quality engineering. *Annals of Statistics*, 18, 281-302.
- [89] Stefanski, L. A. and Carroll, R. J. (1990). Score tests in generalized linear measurement error models. *Journal of the Royal Statistical Society, Series B*, 52, 345-359.
- [90] Stefanski, L. A. and Carroll, R. J. (1990). Deconvoluting kernel density estimators. *Statistics*, 21, 165-184.
- [91] Härdle, W. and Carroll, R. J. (1990). Biased crossvalidation for a kernel regression estimator and its derivatives. *Österreichische Zeitschrift für Statistik und Informatik*, 20, 53-64.
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- [94] Carroll, R. J. and Stefanski, L. A. (1990). Approximate quaslikelihood estimation in models with surrogate predictors. *Journal of the American Statistical Association*, 85, 652-663.
- [95] Carroll, R. J. (1990). Review of *Nonlinear regression, functional relations and robust methods* by H. Bunke and O. Bunke, editors. *Biometrics*, 46, 877-878.
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- [98] Carroll, R. J. and Wand, M. P. (1991). Semiparametric estimation in logistic measurement error models. *Journal of the Royal Statistical Society, Series B*, 53, 573-585.
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- [105] Carroll, R. J. and Li, K. C. (1992). Errors in variables for nonlinear regression: dimension reduction and data visualization. *Journal of the American Statistical Association*, 87, 1040-1050.
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- [350] Midthune, D., Schatzkin, A., Subar, A. F., Thompson, F. E., Freedman, L. S., Carroll, R. J., Shumakovich, M. A. and Kipnis, V. (2011). Validating a food frequency questionnaire for intake of episodically consumed foods: application to the National Institutes of Health-AARP Diet and Health Study. *Public Health Nutrition*, 14, 12121221. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3190597/>
- [351] Wang, L., Liu, X., Liang, H. and Carroll, R. J. (2011). Generalized additive partial linear models—polynomial spline smoothing estimation and variable selection procedures. *Annals of Statistics*, 39, 18271851.
- [352] Freedman, L. S., Midthune, D., Carroll, R. J., Tasevska, N., Schatzkin, A., Mares, J., Tinker, L., Potischman, N. and Kipnis, V. (2011). Using regression calibration equations that combine self-reported intake and biomarker measures to obtain unbiased estimates and more powerful tests of dietary associations. *American Journal of Epidemiology*, to appear.
- [353] Ma, Y., Hart, J. D. and Carroll, R. J. (2011). Density estimation in several populations with uncertain population membership. *Journal of the American Statistical Association*, 106, 1180-1192.

- [354] Xun, X., Mallick, B. K., Carroll, R. J. and Kuchment, P. (2011). A Bayesian approach to detection of small low emission sources. *Inverse Problems*, 27, doi:10.1088/0266-5611/27/11/115009.
- [355] Martinez, J. G., Carroll, R. J., Müller, S., Sampson, J. N. and Chatterjee, N. (2011). Empirical performance of crossvalidation with oracle methods in a genomics context. *American Statistician*, 65, 223-228.
- [356] Wei, J., Carroll, R. J., Harden, K. K. and Wu, G. (2012). Comparisons of treatment means when factors do not interact in two-factor studies. *Amino Acids*, 42, 2031-2035.  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3199378/>
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- [358] Park, J.-H., Gail, M. H., Weinberg, C. Carroll, R. J., Chung, C., Wang, Z., Chanock, S., Fraumeni, J. F and Chatterjee, N. (2012). Distribution of allele frequencies, effect-sizes and their interrelationships for common susceptibility variants. *Proceedings of the National Academy of Sciences*, 108, 18026-18031.
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- [362] Bliznyuk, N., Carroll, R. J., Genton, M. and Wang, Y. (2012). Variogram Estimation in the presence of trend. *Statistics and its Interface*, to appear.
- [363] Wei, Y., Ma, Y. and Carroll, R. J. (2012). Multiple imputation in quantile regression. *Biometrika*, doi: 10.1093/biomet/ass007.
- [364] Carroll, R. J., Midthune, D., Subar, A. F., Shumakovich, M., Freedman, L. S., Thompson, F. E. and Kipnis, V. (2012). Taking advantage of the strengths of two different dietary assessment instruments to improve intake estimates for nutritional epidemiology. *American Journal of Epidemiology*, 175, 340-347.
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- [366] Kipnis, V., Midthune, D., Freedman, L. S. and Carroll, R. J. (2012). Regression calibration with more instruments than mismeasured variables. *Statistics in Medicine*, to appear.
- [367] Carroll, R. J., Delaigle, A. and Hall, P. (2012). Deconvolution when classifying noisy data involving transformations. *Journal of the American Statistical Association*, to appear.
- [368] Wei, J., Carroll, R. J., Müller, U., Van Keilegom, I. and Chatterjee, N. (2013). Locally efficient estimation for homoscedastic regression in the secondary analysis of case-control data. *Journal of the Royal Statistical Society, Series B*, to appear.

**SELECTED PENDING MANUSCRIPTS**

- [1] Martinez, J. G., Bohn, K. M., Carroll, R. J. and Morris, J. S. (2012). A study of Brazilian free-tailed bat chirp syllables: Multi-domain Composite Transform modeling of nonstationary time series data with high frequency content using Bayesian functional mixed models.
- [2] Sampson, J. N., Chatterjee, N., Martinez, J. G. and Carroll, R. J. (2012). Oracle is not optimal: adapting the Adaptive Lasso.
- [3] Li, Y., Wang, N. and Carroll, R. J. (2012). Selecting the number of principal components in functional data.
- [4] Maity, A., Lin, X. and Carroll, R. J. (2013). Semiparametric spline regression for longitudinal/clustered data.
- [5] Chen, Y.-H., Chatterjee, N. and Carroll, R. J. (2012). Using shared genetic controls in studies of gene-environment interactions.
- [6] Park, J.-H., Carroll, R. J. and Chatterjee, N. (2012). Bayesian joint modeling for the distribution of effect sizes and the number of underlying susceptibility loci identifiable in Genome-wide association studies
- [7] Staicu, A.-M., Lahiri, S. and Carroll, R. J. (2012). Tests of significance for spatially correlated multilevel functional data.
- [8] Tooze, J. A., Troiano, R. P., Carroll, R. J., Moshfegh, A. L. and Freedman, L. S. (2012). A measurement error model for physical activity level as measured by a questionnaire with application to the NHANES 1999-2006 questionnaire.
- [9] Xun, X., Cao, J., Mallick, B. K., Carroll, R. J. and Maity, A. (2012). Parameter estimation of partial differential equation models.
- [10] Tekwe, C. D., Carter, R. L. and Carroll, R. J. (2012). Application of multiple indicators, multiple causes measurement error models to atomic bomb survivor data.
- [11] Tekwe, C. D., Dabney, A. R. and Carroll, R. J. (2012). Application of survival analysis methodology to the quantitative analysis of LC-MS proteomics data.

**Ph.D. STUDENTS AND CURRENT EMPLOYMENT**

- [1] Gordon Johnston (1979). Smooth nonparametric regression analysis. Senior statistician, SAS Institute.
- [2] Paul Gallo (1981). Convergence results for errors in variables models. Senior Statistician, Novartis.
- [3] David Giltinan (1983). Bounded influence estimation in heteroscedastic linear models. Retired, previously Senior Statistician, Genentech.
- [4] Leonard A. Stefanski (1983). Estimation for binary regression models. Professor, North Carolina State University (past editor of the *Journal of the American Statistical Association*).
- [5] Douglas Simpson (1985). Robust estimation for discrete data. Professor, University of Illinois (also department head).
- [6] Marie Davidian (December, 1986). Variance function estimation in regression. Professor, North Carolina State University (also past editor, *Biometrics*, currently President of the American Statistical Association).
- [7] Ernestine Kettl (May, 1987). Applications of the transform-both-sides regression model. Shell Research Corporation.
- [8] Yin Yin (March, 1988). Edgeworth expansions and hypothesis tests in heteroscedastic regression models. Glaxo Pharmaceuticals.
- [9] Lie-Ju Hwang (May, 1990). Empirical Bayes methods in assays, with applications to variance function estimation. Statistician, Pfizer, Inc.
- [10] J. H. Sepanski (July, 1991). Semiparametric estimation in measurement error models. Professor, Department of Mathematics, Central Michigan University.
- [11] R. Landin (July, 1992). Topics in measurement error models with applications to repeated measures and nutrition data. Senior Statistician, Neurocrine Pharmaceuticals.
- [12] C. Y. Wang (August, 1993). Analysis of case-control studies. Full Member, Fred Hutchinson Cancer Research Center.
- [13] R. Knickerbocker (December, 1993). Dimension reduction and measurement error models. Senior Director, Genzyme Inc.
- [14] R. Gutierrez (July, 1995). Semiparametrics, dimension reduction and missing data. Consultant and previous Director of Statistics, STATA Corporation.
- [15] S. Eckert (July, 1995). Deconvolution aspects of measurement error models. Senior Director, Genzyme Corporation.
- [16] J. Maca (July, 1997). Nonparametric regression and measurement error. Senior Statistician, Novartis.
- [17] C. Galindo (July, 1998). Nonparametric regression. Director of Business Intelligence, Shopping.com.
- [18] S. Iturria (July, 1998). Bayesian model averaging with application to cladistics analysis in genetics. Senior Statistician, Eli Lilly and Company.
- [19] J. S. Morris (July, 2000). Statistical models for colon cancer cell mechanisms. Professor, M. D. Anderson Cancer Research Center.
- [20] Hua Liang (March, 2001). Semiparametric statistical methods and computation. Professor, University of Rochester, Department of Biostatistics and Bioinformatics.

**Ph.D. STUDENTS AND CURRENT EMPLOYMENT (Continued)**

- [21] Inyoung Kim (May, 2002). Effect modification in matched case-control studies. Associate Professor, Virginia Tech University.
- [22] Chan Hee Jo (December, 2002). Bayesian semiparametric logistic regression. Associate Professor, Scott and White Medical School.
- [23] Tanya Apanasovich (June, 2004). Longitudinal and spatial methods in the analysis of Aberrant Crypt Foci in colon carcinogenesis. Assistant Professor, George Washington University.
- [24] Gosia Leyk-Williams (June, 2004). Bayesian methods in the analysis of DNA damage using the FLARE assay for colon carcinogenesis. Senior Statistician, Eli Lilly.
- [25] Christine Spinka (June, 2004). Gene-environment interactions in genetic epidemiology. Research Assistant Professor, University of Missouri.
- [26] Veerabhadran Baladandayuthapani (June, 2005). Bayesian methods in Bioinformatics. Associate Professor, University of Texas M. D. Anderson Cancer Center.
- [27] Iryna Lobach (June, 2006). Seemingly unrelated measurement error models with application to nutritional epidemiology and colon carcinogenesis. Assistant Professor, New York University Medical School.
- [28] Yehua Li (June, 2006). Functional data analysis in biology. Associate Professor, Iowa State University.
- [29] Bo Li (August, 2006). Spatial statistics. Assistant Professor, Purdue University.
- [30] Lian Liu (August, 2007). Semiparametric measurement error models. Senior statistician, Novartis, Inc., Shanghai.
- [31] Arnab Maity (August, 2008). Semiparametric methods for repeated measures data. Assistant professor, North Carolina State University.
- [32] Seokho Lee (May, 2009). Postdoctoral associate, Harvard School of Public Health.
- [33] Andrew Redd (August, 2010). Computational methods in functional data analysis. Assistant professor, University of Utah Medical Center.
- [34] Jiawei Wei (May, 2010). Gene-environment case-control studies. Senior statistician, Novartis, Inc., Shanghai.
- [35] Saijuan Zhang (December, 2010). Bayesian analysis in multivariate measurement error models of nutritional surveillance. Senior statistician, Merck.
- [36] Trijya Singh (May, 2011). Measurement error and small area estimation. Assistant professor, Le Moyne College.
- [37] Xiaolei Xun (May, 2012). Inverse problems. Senior statistician, Novartis, Inc., Shanghai.
- [38] Abhra Sarkar (May 2014). Bayesian analysis of high dimensional data.
- [39] Ranye Sun (May 2014). Longitudinal data.
- [40] Rubin Wei (May 2015). Measurement error problems in nutritional epidemiology.
- [41] Yanqing Wang (May 2015). Measurement error problems in nutritional epidemiology.

**POSTDOCTORAL RESEARCHERS AND CURRENT EMPLOYMENT**

- [1] Helmut Küchenhoff, University of Munich
- [2] Andreas Ruckstuhl, Zürich Technical University, Zürich
- [3] Laura Martino, National Center for Agricultural Research, Rome
- [4] Danh V. Nguyen, University of California at Davis
- [5] Qi Zheng, Texas A&M University, School of Rural Public Health
- [6] Wenjiang Fu, Michigan State University
- [7] Kimberley Drews, George Washington University
- [8] Annamaria Guolo, Faculty of Economics, University of Verona
- [9] Lan Zhou, Texas A&M University
- [10] Ana-Maria Staicu, North Carolina State University
- [11] Nikolay Bliznyuk, University of Florida
- [12] Cornelis Potgieter, Southern Methodist University
- [13] Anindya Bhadra, Purdue University
- [14] Carmen Tekwe (current)
- [15] Tanya Garcia (current)

**INVITED PRESENTATIONS**

I have presented 357 invited lectures, which include the following since 1990:

University of New Mexico	1990
Los Alamos National Laboratory	1990
University of Waterloo	1990
Yale University	1990
University of Wisconsin	1990
Cornell Workshop on Function Estimation	1990
Purdue University	1990
Montana State University	1990
Penn State University	1990
Alaska ASA Chapter	1990
Conference on Discrete Choice Models, Louvaine le Neuve	1990
Australian National University	1991
LaTrobe University	1991
University of Tasmania	1991
Regression Conference, Australian Statistical Association	1991
Distinguished Lecturer, Australian Graduate School of Management	1991
Statistics Week, University of Miami (Ohio)	1991
University of Alaska, Fairbanks	1991
Penn State University	1991
ENAR National Meeting, Atlanta	1991
North Carolina Chapter, American Statistical Association	1991
Bureau of Labor Statistics	1992
University of Texas at Austin	1992
National Institute of Occupational Safety and Health	1992
ENAR Spring Meeting, Cincinnati	1992
Swiss Statistics Society Spring Meeting	1992
Eli Lilly Conference on Population Pharmacokinetics	1992
Purdue Decision Theory Conference	1992
GLIM 92, München, Germany	1992
University of Michigan	1992
Cornell University	1992
IMS Special Topics Meeting on Likelihood	1992

## INVITED PRESENTATIONS (Continued)

Texas A&M Nutrition Faculty	1992
Harvard School of Public Health	1993
Emory University	1993
Rice University	1993
Rand Afrikaans University	1993
Joint Statistical Meetings, NISS session	1993
Columbia University	1993
NISS Workshop on Combining Environmental Data	1993
University of Maryland	1993
University of Pittsburgh	1993
National Heart, Lung and Blood Institute	1993
IMS Spring Regional meeting (Cleveland)	1994
ASA Annual Meeting (Toronto)	1994
Greenberg Lectures in Biostatistics, University of North Carolina	1994
University of Texas at Austin	1994
National Cancer Institute, Division of Cancer Etiology	1994
Second International Conference on Dietary Assessment	1995
University of Kentucky	1995
Incomplete Data Conference, Freiburg (Germany)	1995
Oberwolfach Conference on Incomplete Data	1995
Georgia Tech University	1995
Atlanta ASA Chapter	1995
Third Great Lakes Statistics Symposium	1995
Rutgers University	1995
Johns Hopkins University	1995
Nuffield College, Oxford	1995
University of Oxford	1995
ENAR President's Address	1995
Multiple Decision Theory Conference, Purdue University	1995
University of Pennsylvania Medical School	1995
LaTrobe University	1995
Oberwolfach Conference on Mathematical Statistics	1996
ENAR Spring Meeting	1996
ASA Annual Meeting	1996
Brown University	1996
University of California at Davis	1996
University of Georgia Conference on Estimating Functions	1996
Harvard School of Public Health	1996
ASA Annual Meeting, Chicago	1996
Statistics in Science, Halifax	1996
Conference on Longitudinally and Spatially Correlated Data, Nantucket	1996
Memorial Sloan-Kettering Cancer Institute	1996
EPA Conference on Validating Lead Exposure Models	1996
Humboldt Universität zu Berlin	1997
University of Munich	1997
University of Pennsylvania	1996
University of Michigan	1997
Temple University	1997
ENAR Spring Meeting	1997
IMS Annual Meeting	1997
University of Illinois	1997

## INVITED PRESENTATIONS (Continued)

IMS New Researcher's Conference	1997
Mathematical Models in Experimental Nutrition VI	1997
49 <sup>th</sup> Clemson-Georgia Joint Colloquium	1997
IMA Conference on Environmental Statistics	1997
NCI Conference on Radon and Exposure Assessment	1997
ASA Annual Meeting	1998
University of Heidelberg	1998
NCI Division of Cancer Epidemiology and Genetics	1998
University of Massachusetts	1998
University of New Mexico	1998
Los Alamos National Laboratory	1998
Conference of Texas Statisticians	1998
Taipei International Statistical Symposium	1998
CLAPEM IV, Cordoba, Argentina	1998
ENAR Spring Meeting	1999
ASA-IMS Annual Meeting	1999
Munich Workshop on Semiparametric Modeling	1999
Humboldt University in Berlin	1999
Purdue University	1999
University of Missouri	2000
ENAR Spring Meeting	2000
ASA Radiation Conference	2000
ASA-IMS Annual Meeting (IMS Special Invited Paper)	2000
Workshop on Mathematical Modeling in Nutrition	2000
Munich Workshop on Measurement Error Models	2000
Australian National University	2000
Oberwolfach Conference on Complex Data Structures	2000
University of Freiburg	2000
Yale University	2000
Eli Lilly and Company	2000
Latrobe University (Melbourne)	2000
ENAR, Charlotte (2 talks)	2001
JSM, Atlanta (2 talks)	2001
University of Dortmund	2001
University of Heidelberg	2001
Wayne Fuller Conference, Iowa State University	2001
St. Judes Children's Hospital	2001
University of Wisconsin	2002
ENAR Spring Meeting	2002
Australian National University	2002
Australian Statistical Society Annual Conference	2002
Joint Statistical Meetings	2002
Fisher Lecture, Joint Statistical Meetings	2002
AMS Conference on Longitudinal Data	2002
University of Auckland Biostatistics Workshop	2002
University of Auckland Statistics Department	2002
Florida State University	2003
University of Munich	2003
Columbia University	2003
University of Bielefeld	2003
Joint Statistical Meetings	2003

## INVITED PRESENTATIONS (Continued)

Statistical Society of Canada	2003
Catholic University of Louvain, Belgium	2003
Cornell University	2003
Temple-Merck Conference	2003
Indian Statistical Institute	2003
North Carolina State University	2004
ENAR	2004
Ohio State University	2004
IMS Calcutta Conference	2004
Lehmann Conference, Rice University	2004
International Biometric Congress	2004
University of Minnesota	2004
Distinguished Lecture Series, Texas A&M University	2004
University of Pennsylvania	2004
Johns Hopkins University	2004
Australian National University	2004
Eli Lilly and Company	2004
Ohio State University, MBI	2004
ENAR	2005
University of Minnesota (Buehler-Martin Distinguished Lecture Series)	2005
University of Florida Longitudinal Data Workshop	2005
University of Munich	2005
ASA/IMS Annual Meeting	2005
M. D. Anderson	2005
Houston ASA Chapter	2005
Purdue University	2005
Alastair Scott Conference, University of Auckland	2005
Annual General Meeting, Statistical Society of Australia	2005
National University of Singapore	2005
Ohio State University (Rustagi Lecture)	2005
Columbia University	2005
Houston ASA Chapter	2005
M.D. Anderson Cancer Center	2005
University of Munich	2005
Medical University of South Carolina	2005
University of Ulm	2005
University of Mannheim	2005
University of Georgia (Bradley Lecture)	2006
ENAR	2006
Penn State University	2006
University of Illinois (Bohrer Lecture)	2006
University of Washington (Biostatistics)	2006
Midwest Biopharmaceutical Statistics Workshop	2006
WNAR	2006
University of Washington (Breslow Conference)	2006
Joint Statistical Meetings	2006
St. John's University, Newfoundland	2006
University of Louisville	2006
University of Alabama at Birmingham Medical School	2006
University of California at Santa Barbara (Sobel Lecture)	2006
University of California at San Diego	2006

## INVITED PRESENTATIONS (Continued)

University of Mannheim	2006
University College Cork	2006
University of Juan Carlos III	2006
Centers for Disease Control	2006
University of Florida (Challis Lectures)	2006
National Cancer Institute	2006
Oberwolfach Conference on Econometrics	2007
University of Bielefeld	2007
University of Padua	2007
University of Melbourne	2007
Monash University	2007
University of South Carolina	2007
Oberwolfach Conference on Modern Data Analysis	2007
University of Bonn	2007
Rutgers University	2007
Columbia University (Biostatistics)	2007
University of North Carolina	2007
III Cycle Romand de statistique (Switzerland)	2007
University of Bristol	2007
ENAR	2008
Academia Sinica	2008
Fu-Jen University	2008
Joint Statistical Meetings	2008
National University of Singapore	2008
University of Wollongong	2008
National Seoul University	2008
Korean Statistical Society	2008
Southern Regional Conference on Statistics	2008
Harvard University	2008
Mitchell Lectures, University of Glasgow	2009
Southern Regional Conference on Statistics	2009
Joint Statistical Meetings	2009
Brown University	2009
University of Manitoba	2009
Joint Statistical Meetings	2009
JASA Editor's Invited Paper	2009
Technical University of Lisbon	2009
Banff Workshop on Longitudinal Data	2009
Population Health Research, Alberta Health Services	2009
University of Freiburg	2009
University at Buffalo	2009
Thomas Jefferson Medical School	2009
University of Rochester, Odoroff Lecture	2010
Probability and Statistics Day, University of Maryland at Baltimore County	2010
Michigan State University	2010
ENAR	2010
Joint Statistical Meetings	2010
Israeli Statistical Association	2010
International Chinese Statistical Association Workshop on Applied Statistics	2010
University of Melbourne	2010
SAMSI Workshop on Functional Data Analysis	2010

**INVITED PRESENTATIONS (Continued)**

Yale University	2010
ENAR, Miami	2011
University of Michigan Statistics	2011
University of Michigan Biostatistics	2011
Harvard University Biostatistics	2011
Joint Statistical Meetings	2011
University of Galway	2011
Portland State University	2011
King Abdullah University of Science and Technology (KAUST)	2011
University of Mannheim	2011
University of Kiev	2011
Institute for Radiation Protection, Kiev	2011
Ross Prentice 65 <sup>th</sup> Birthday Conference, Seattle	2011
North Carolina State University	2011
Wake Forest University, Gentry Lectures	2011
National Cancer Institute Webinar Series on Measurement Error in Nutrition	2011
Joint Statistical Meetings, IMS	2012
Yale University	2012
Second Joint Biostatistics Symposium 2012, Beijing, China	2012
Institut de Statistique, Université Catholique de Louvain, Belgium	2012
Universiteit Hasselt, Belgium	2012
University of Pamplona, Spain	2012
Spanish Statistical Meetings	2012
University of Texas at Austin	2012