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## PERSONAL DATA:

- U. S. Citizen

## EDUCATION:

- B.A., 1970, Cornell University, Mathematics

- M.A., 1973, University of Vermont, Mathematics

- Ph.D., 1977, Michigan State University, Statistics

## EMPLOYMENT:

- 2002–present: Andrew Schultz Jr. Professor of Engineering, Cornell University

- Professor, Operations Research and Industrial Engineering, Cornell University, July 1, 1987 – present.

- Visiting Fellow, Centre for Mathematics and Its Applications, Australian National University, January 1991 – May 1991.

- Associate Professor, Department of Statistics, The University of North Carolina at Chapel Hill, July 1, 1983 – June 30, 1987.

- Assistant Professor, Department of Statistics, The University of North Carolina at Chapel Hill, July, 1977 – June, 1983.

- Instructor, Michigan State University, January, 1977 – June, 1977.

## PROFESSIONAL ORGANIZATIONS:
Institute of Mathematical Statistics (fellow)
American Statistical Association (fellow)

## HONORS:
1986 Wilcoxon prize for best practical applications paper in *Technometrics*.
Fellow of the Institute of Mathematical Statistics, elected 1986.
Fellow of the American Statistical Association, elected 1989.
Invited paper in the "Best of JCGS Session" at Interface 1999

Named "Highly cited" researcher by ISIHighlyCited.com
Andrew Schultz, Jr. Professor of Engineering, an endowed chair awarded by Cornell University in 2002
2007: Chosen by Cornell Merrill Scholar Ji Gu as the Cornell faculty member who most influenced her
Cornell University Department of Statistical Science Distinguished Alumni Award 2014

## PUBLICATIONS (BOOKS):

1. Carroll, R.J., and Ruppert, D. (1988) *Transformation and Weighting in Regression.* Chapman and Hall: London and New York.

2. Carroll, R.J., Ruppert, D., and Stefanski, L. (1995) *Measurement Error in Nonlinear Models* Chapman and Hall: New York.

3. Ruppert, D., Wand, M.P., and Carroll, R.J. (2003) *Semiparametric Regression*, Cambridge University Press.

4. Ruppert, D. (2004) *Statistics and Finance: An Introduction,* Springer.

5. Carroll, R.J., Ruppert, D., Stefanski, L., and Crainiceanu, C. (2006) *Measurement Error in Nonlinear Models: A Modern Perspective, 2nd ed.* Chapman and Hall: New York.

6. Ruppert, D. (2011) *Statistics and Data Analysis for Financial Engineering*, Springer.

7. Ruppert, D. and Matteson, D. (2015) *Statistics and Data Analysis for Financial Engineering, 2nd ed.*, Springer.

8. Harezlak, J., Ruppert, D., and Wand, M. P. (2018) *Semiparametric Regression in R*, Springer.

## PUBLICATIONS (PAPERS):

1. Ruppert, D., Jakab, G. J., Sylwester, D. L., and Green, G. M. (1976) Sources of variance in measurement of intrapulmonary killing of bacteria, *J. Laboratory and Clinical Medicine*, 87, (3), 544–588.

2. Ruppert, D. (1979) A new dynamic stochastic approximation procedure. *Ann. Statist.*, 7, 1179–1195.

3. Ruppert, D., and Carroll, R.J. (1980) Trimmed least squares estimation in the linear model, *J. of the Amer. Statist. Assoc.*, 75, 828–838.

4. Carroll, R. J., and Ruppert, D. (1981) On robust tests for heteroscedasticity, *Ann. Statist.*, 9, 205–209.

5. Ruppert, D. (1981) Stochastic approximation of an implicitly defined function, *Ann. Statist.*, 9, 555–556.

6. Carroll, R. J., and Ruppert, D. (1981) On prediction and the power transformation family, *Biometrika*, 68, 606–619.

7. Ruppert, D.(1982) Almost sure approximation to the Robbins-Monro and Kiefer-Wolfowitz processes with dependent noise, *Ann. Prob.*, 10, 178–187.

8. Carroll, R.J., and Ruppert, D. (1982) Robust estimation in heteroscedastic linear models. *Ann. Statist.*, 10, 429–441.

9. Carroll, R. J., and Ruppert, D. (1982) A comparison between maximum likelihood and generalized least squares in a heteroscedastic linear model, *J. of the Amer. Statist. Assoc.*, 77, 878–882.

10. Carroll, R. J., and Ruppert, D. (1982) Weak convergence of bounded influence regression estimates with applications to repeated significance testing, *J. Statist. Planning and Inference*, 1, 117–130.

11. Carroll, R. J., Ruppert, D., and Holt, R. N. (1982) Some aspects of estimation of heteroscedastic linear models, In *Statistical Decision Theory and Related Topics III*, Vol. 1 (S.S. Gupta and J.O. Berger, eds.), Academic Press: New York, pp.231–242.

12. Ruppert, D. (1983) Convergence of recursive estimators with applications to nonlinear regression, In *Mathematical Learning Models Theory and Algorithms*, pp.182–190. (U. Herkenrath, D. Kalin, and W. Vogel, eds.), Springer-Verlag: New York.

13. Carroll, R. J., and Ruppert, D. (1983) Robust estimators for random coefficient regression models, In *Contributions to Statistics: Essays in Honor of Norman Lloyd Johnson*, (P.K. Sen., ed.), North Holland, Amsterdam, pp. 81–96.

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15. Carroll, R. J., and Ruppert, D. (1984) Power transformation when fitting theoretical models to data, *J. of the Amer. Statist. Assoc.*, 79, 321–328.

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85. Yu, Y., and Ruppert, D. (2004) Root-n consistency of penalized spline estimator for partially linear single-index models under general euclidean space, *Statistica Sinica*, 14, 449–456.

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131. Srivastava, R., Li, P., and Ruppert, D. (2016) RAPTT: An Exact Two-Sample Test in High Dimensions Using Random Projections. *Journal of Computational and Graphical Statistics*, 25, 954–970.

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133. Germain, A., Ruppert, D., Levine, S., and Hanson, M. (2017) Metabolic profiling of an ME/CFS discovery cohort reveals disturbances in fatty acid and lipid metabolism, *Molecular BioSystems*, 13, 371–379.

134. Kowal, D., Matteson, D., and Ruppert, D. (2017) A Bayesian Functional Dynamic Linear Model, *J. of the Amer. Statist. Assoc.*, 112, 733–744.

135. Kim, Janet S., Staicu, A-M, Ruppert, D., and Maity, A. (2018) Additive Function-on-function regression, *Journal of Computational and Graphical Statistics*, 27, 234–244.

136. Germain, A., Ruppert, D., Levine, S., and Hanson, M. (2018) Prospective biomarkers from plasma metabolomics of myalgic encephalomyelitis/chronic fatigue syndrome implicate redox imbalance in disease symptomology, *Metabolites*, 8, `https://www.mdpi.com/2218-1989/8/4/90`

137. Risk, B., Matteson, D., and Ruppert, D. (2019) Linear Non-Gaussian Component Analysis via Maximum Likelihood, *J. of the Amer. Statist. Assoc.*, 114, 332–343.

138. Kowal, D., Matteson, D., and Ruppert, D. (2019) Functional Autoregression for Sparsely Sampled Data, *Journal of Business and Economic Statistics*, 37, 97–109.

139. Cao, J., Soiaporn, K., Carroll, R., and Ruppert, D. (2018) Modeling Multiple Correlated Functional Outcomes with Spatially Heterogeneous Shape Characteristics, *Journal of Agricultural, Biological, and Environmental Statistics*, 24, 112–129.

140. Kowal, D., Matteson, D., and Ruppert, D. (2019) Dynamic Horseshoe Processes, *Journal of the Royal Statistics Society, Series B*, 81, 781–804.

141. Tang, Qingguo, Kong, Linglong, Ruppert, David, and Karunamuni, Rohana. (2021) Partial Functional Partially Linear Single-Index Models, *Statistica Sinica*, 31, 107–133.

142. Wang, Haiying, Zhang, Dixin, Liang,Hua and Ruppert, David (2021) Iterative Likelihood: A unified inference Tool, *Journal of Computational and Graphical Statistics*, 920–933.

143. Yang, Ran, Apley, Daniel, Staum, Jeremy, Ruppert, David (2020) Density Deconvolution with Additive Measurement Errors using Quadratic Programming, *Journal of Computational and Graphical Statistics*, 29, 580–591.

144. Sun, Zhihua, Chen, Feifei, Liang, Hua, and Ruppert, David (2021) A projection-based consistent test incorporating dimension-reduction in partial linear models, *Statistica Sinica*, 31, 1489–1508.

145. Zhang, Tao, Ning, Yang, and Ruppert, David (2021) Optimal Sampling for Generalized Linear Models under Measurement Constraints, *Journal of Computational and Graphical Statistics*, 30, 106–114.

146. Liu, Yang, and Ruppert, David (2021) Density estimation on a network, *Computational Statistics and Data Analysis*, 156,

147. Hattad, Mohammed and Ruppert, David (2021) A mixed model approach to measurement error in semiparametric regression, *Statistics & Computing*, 31, 3.

148. Yang, Ran, Kent, David, Apley, Daniel, Staum, Jeremy, Ruppert, David (2021) Bias-corrected Estimation of the Density of a Conditional Expectation in Nested Simulation Problems, *ACM Transactions on Modeling and Computer Simulation*, 22, 1–36

149. Huang, W. and Ruppert, D. (2021) Copula-based functional Bayes classification with principal components and partial least squares, *Statistica Sinica*, 33, 55–84.

150. Cui, Erjia, Thompson, Christi, Carroll, Raymond, and Ruppert, David (2021) A Semiparametric Risk Score for Physical Activity, *Statistics in Medicine*, 11, 1191–1204.

151. Pinelis, Michael and Ruppert, David (2022) Machine Learning Portfolio Allocation, *The Journal of Finance and Data Science*, 8, 35-54.

152. Zhang, Tao, Kato, Kengo, and Ruppert, David (2023) Bootstrap Inference for Quantile-Based Modal Regression, *J. of the Amer. Statist. Assoc.*, 118, 122–134.

153. Zhu, Rong, Liang, Hua, and Ruppert, David (2023) Ensemble Subset Regression (ENSURE): Efficient High-dimensional Prediction, *Statistica Sinica*, 33, 1411–1434.

154. Li, Xinmin, Chen, Feifei, Liang, Hua, and Ruppert, David (2023) Model Checking for Logistic Models When the Number of Parameters Tends to Infinity, *Journal of Computational and Graphical Statistics*, 32, 241–251.

155. Li, Jiayin, Giloteaux, Ludo, Hornig, Mady, Lipkin, W. Ian, Ruppert, David, and Hanson, Maureen (2023) Proteomics and cytokine analyses distinguish Myalgic Encephalomyelitis/Chronic Fatigue Syndrome cases from controls, *J. of Translation Medicine*, to appear.

156. Hattab, Mohammed and Ruppert, David (2023) Measurement errors in semiparametric generalized linear models, *Australian and New Zealand Journal of Statistics*, 65, 344–363.

157. Nolan, Tui, Goldsmith, Jeff, and Ruppert, David (2023) Bayesian Functional Principal Components Analysis via Variational Message Passing, *Bayesian Statistics*, to appear.

158. Kent, David, and Ruppert, David (2023) Smoothness-Penalized Deconvolution (SPeD) of a Density Estimate, *J. of the Amer. Statist. Assoc.*, available online at JASA and at arXiv: `http://arxiv.org/abs/2205.09800`

159. Li, Jiayin, Kaltenegger, L., Pham, D., and Ruppert, D. (2023) Characterization of extrasolar giant planets with machine learning, *Monthly Notices of the Royal Astronomical Society*, to appear

160. Thurston, S., Ruppert, R., and Korrick, S. (2024) A Novel Approach to Assessing the Joint Effects of Mercury and Fish Consumption on Neurodevelopment in the New Bedford Cohort *American Journal of Epidemiology*, to appear.

## MANUSCRIPTS SUBMITTED OR IN PREPARATION:

1. Kent, D., Budavári, T., Loredo, T., and Ruppert, D. (2023) Splines 'n Lines: Rest-frame galaxy spectral energy distributions via Bayesian functional data analysis

## COMMENTS, LETTERS, ENCYCLOPEDIA ARTICLES, and REVIEWS:

1. Comment on "Mad Query" by Fredric M. Lord, (1983) *The American Statistician*, 37, 344.

2. The Kiefer-Wolfowitz procedure, (1983) *Encyclopedia of Statistical Sciences*, Vol 4, (S. Kotz and N.L. Johnson, eds.), John Wiley: New York.

3. Comments on "The analysis of transformed data" by D. Hinkley and G. Runger, (1984) *J. of the Amer. Statist. Assoc.*, 79, 312–313, (with R.J. Carroll).

4. M-estimators, (1985) *Encyclopedia of Statistical Sciences*, Vol. 5, (S. Kotz and N.L. Johnson, eds.), John Wiley: New York.

5. Comment on "Maximum Likelihood Estimation of $\mu$ and $\Sigma$ from a Multivariate Normal Distribution" by J. C. W. Rayner, (1985) *The American Statistican*, 39, 326–327, (with E. Carlstein and D. Richards).

6. Discussion of "Jackknife, bootstrap and other resampling methods in regression analysi" by C.F.J. Wu. (1986) *Ann. Statist.*, 14, 1298–1301, (with R.J. Carroll).

7. Review of "Robust Statistics" by Hampel, Ronchetti, Rousseeuw, and Stahel., (1987) *Technometrics*, 29, 240–241.

8. Discussion of "Studies in Quality Improvement: Signal to Noise Ratios, Performance Criteria and Statistical Analysis" by G.E.P. Box, (1988), *Technometrics*, 30, 30–31, (with R.J. Carroll).

9. Trimming and Winsorization, (1988) *Encyclopedia of Statistical Sciences*, vol. 9, (S. Kotz and N.L. Johnson, ed.), John Wiley: New York.

10. Robustification and robust substitutes, (1988) *Encyclopedia of Statistical Sciences*, vol. 8 (S. Kotz and N.L. Johnson, ed.), John Wiley: New York.

11. Comments on "Unmasking multivariate outliers and leverage points" by P. Rousseeuw and B. van Zomeren, (1990), *J. Amer. Statist. Assoc.*, 85, 644–646. (with D.G. Simpson).

12. Review of "Regression analysis with application" by G.B. Wetherill, (1990), *Metrika*, 37, 382–384.

13. Comments on "Regression Depth" by Rousseeuw and Hulbert, (1999) *J. of the Amer. Statist. Assoc.*, 94, 410-411. (with R. J. Carroll and L. A. Stefanski).

14. Comments on "Variable Selection and Function Estimation in Additive Nonparametric Regression Using a Data-Based Prior" by Shively, Kohn, and Wood, (1999) *J. of the Amer. Statist. Assoc.*, 94, 794–797. (with B. Brumback and M. Wand)

15. Ruppert, D. (2001) "Statistical analysis, special problems of: Transformations of data", *International Encyclopedia of the Social & Behavioral Sciences,* 1500-1501

16. Ruppert, D. (2001) Multivariate Transformations, Encyclopedia of Environmetrics.

17. Ruppert, D. (2002) Discussion of "Inconsistency of resampling algorithms for high breakdown regression estimators and a new algorithm" by Douglas Hawkins and David Olive, JASA, 97, 148–149.

18. Ruppert, D. (2001) Review of "Nonparametric regression and Spline Smoothing" by Randall Eubank, JASA, 96, 1523–1524.

19. Ruppert, D. (2002) Discussion of "Spline adaptation for extended linear models " by M. Hansen and C. Kooperberg, *Statistical Science*, 17, 37–40.

20. Ruppert, D. (2002) Review of "Probability for Statisticians" by Galen Shorack, JASA, 97, 6 – 6 .

21. Ruppert, D. (2004) Review of "The Elements of Statistical Learning: Data Mining, Inference, and Prediction" by Hastie, Tibshirani, and Friedman, *J. of the Amer. Statist. Assoc.*, 99, 567.

22. Ruppert, D., (2005) Discussion of "Maximization by Parts in Likelihood Inference," by Song, Fan, and Kalbfleish, *J. of the Amer. Statist. Assoc.*, 100, 1161–1163.

23. Ruppert, D., and Carroll, R. (2007). Comments on "Does the Effect of Micronutrient Supplementation on Neonatal Survival Vary with Respect to the Percentiles of the Birth Weight Distribution?" by Francesca Dominici, Scott L. Zeger, Giovanni Parmigiani, Joanne Katz, and Parul Christian, *Bayesian Analysis*, 2(1), 37–42.

24. Carroll, R., and Ruppert, D. (2006). Comment on "*Conditional Growth Charts*" by Ying Wei and Xuming He, *The Annals of Statistics*, 34, 2098–2103.

25. Ruppert, D., (2007). Comments on "Model-assisted Estimation of Forest Resources with Generalized Additive Models" by J. D. Opsomer, F. J. Breidt, G. G. Moisen, and G. Kauermann, *J. of the Amer. Statist. Assoc.*, 102, 409–411.

**UNPUBLISHED MANUSCRIPTS:**

1. Efficient estimators from a slowly convergent Robbins-Monro process. OR & IE Technical Report # 781.

2. Semiparametric estimation of transformations to symmetry in regression (with M. Nakamura).

3. Transformation kernel density estimators using stochastic bandwidths (with Ola Hössjer).

4. A simple roughness penalty approach to regression spline estimation (with R.J. Carroll)

5. The sandwich (robust covariance matrix) estimator. (with R.J. Carroll, S. Wang, D.G. Simpson, and A. Stromberg)

6. Motion picture analysis of smoothing, (1999) (with J. S. Marron and E. Smith, and G. Conley)

7. Crainiceanu, C., Ruppert, D., and Vogelsang, T., (2002). Probability of a zero MLE or REML estimate of a variance component in a linear mixed model.

8. Crainiceanu, C., Ruppert, D., and Coresh, J. (2006) Cox models with nonlinear effect of covariates measured with error: A case study of primary Chronic Kidney Disease.

9. Fan, K-Y., Shoemaker, C., and Ruppert, D. (2003) Penalized regression dynamic programming (PR-DP) for high-dimensional continuous-state control problems.

10. Ma, Shujie, Zhao, Shi, Liang, Hua, and Ruppert, David (2012) Analysis of clustered data with diverging number of covariates using the quadratic inference function method.

## RECENT INVITED LECTURES:

- Nov 13, 2018, Deconvolution by quadratic programming with application to nested simulation, Penn State University.

- Oct 23, 2018, Deconvolution by quadratic programming with application to nested simulation, Binghamton University.

- Aug 16, 2017, Nonparametric function estimation: an introduction, Third Workshop on Extremely Precise Radial Velocities (EPRV3) , Penn State University.

- Oct 7, 2016, A Bayesian multivariate functional dynamic linear model, Nonparametric Statistics Workshop, University of Michigan.

- Apr 22, 2016, A Bayesian multivariate functional dynamic linear model, Texas A&M University.

- Apr 14, 2016, A Bayesian multivariate functional dynamic linear model, University of Buffalo.

- Apr 7, 2016, A Bayesian multivariate functional dynamic linear model, Joint University of Georgia/Clemson seminar at U. of Georgia.

- Oct 7, 2015, Multilevel Bayesian Framework for Modeling the Production, Propagation, and Detection of Ultra-High Energy Cosmic Rays, Interdisciplinary seminar in Quantitative Methods (ISQM), University of Michigan.

- Jun 29, 2015, A Bayesian multivariate functional dynamic linear model, Banff, Alberta, Canada.

- Apr 7, 2015, Fast Covariance Estimation for High-dimensional functional data, Department of Biostatistics, University of Pennsylvania.

- Sep 5, 2014, Semiparametric Modeling with Splines: a Personal Perspective, Department of Statistical Science, Cornell University (lecture for the Distinguished Alumni Award)

- Aug 7, 2014, Fast Covariance Estimation for High-dimensional functional data, JSM Invited talk, Boston.

- Sep 19, 2013, Fast Covariance Estimation for High-dimensional functional data, Yakovlev Colloquium, Department of Biostatistics, University of Rochester.

- Aug 8, 2013, Invited Talk, JSM 2013, Montreal, Modeling Multiple Correlated Functional Outcomes with Spatially Heterogeneous Shape Characteristics

- May 3, 2013, Multilevel Bayesian Framework for Modeling the Production, Propagation, and Detection of Ultra-High Energy Cosmic Rays, ORFE, Princeton University

- Mar 12, 2013, Uncertainty Analysis for Computationally Expensive Models, JABES Editor Invited Talk, ENAR.

- Jul 30, 2012, Uncertainty Analysis for Computationally Expensive Models, Invited Talk, JSM 2012

- Dec 5, 2011, Generalized Additive Functional Regression, Colorado State University

- Mar 21, 2011, Generalized Additive Functional Regression, Invited Talk, ENAR.

- Dec 5, 2011, Cosmic Rays and Bayesian Computations, ISTeC (Information Science and Technology Center) Distinguished Lecture, Colorado State University

- Oct 14, 2011, Guilt by Association: Finding Cosmic Ray Sources, Case Studies in Bayesian Statistics and Machine Learning, Carnegie-Mellon University (joint with astronomer Tom Loredo)

- Jun 14, 2011, Guilt by Association: Finding Cosmic Ray Sources, Invited Talk, Graybill Conference, Colorado State University

- May 20, 2011, Guilt by Association: Finding Cosmic Ray Sources, Invited Talk, Statistical Inverse Problems in the Biosciences Workshop, Texas A&M University

- Apr 15, 2011, Penalized Splines, Mixed Models, and Recent Large-Sample Results, University of Michigan

- Mar 25, 2011, Penalized Splines, Mixed Models, and Recent Large-Sample Results, Duke University.

- Feb 4, 2011, Penalized Splines, Mixed Models, and Recent Large-Sample Results, North Carolina State University.

- Aug 3, 2009, *New Results on Asymptotics for Penalized Splines*, Invited Talk, JSM-2009

- Jul 24, 2009, *Statistics for Financial Engineering: Some R Examples*, Keynote address at International Workshop on Statistical Modeling, Ithaca, NY

- June 30, 2009, *Penalized Splines, Mixed Models, and Recent Large-Sample Results*, University of Manitoba

- May 7, 2009 *Penalized Splines, Mixed Models, and Recent Large-Sample Results*, Columbia University

- April 24, 2009 *Statistics for Financial Engineering: Some R Examples*, Keynote Address at R in Finance Conference, Chicago

- Mar 14, 2009 *New Results on Asymptotics for Penalized Splines*, Texas A & M University, College Station, TX.

- Jan 9, 2009, *Penalized Splines, Mixed Models, and Recent Large-Sample Results*, Keynote Address at University of Florida's Winter Workshop on Semiparametric Inference

- Oct 13, 2008, Burack Lecture, University of Vermont, *Linear Statistical Models to Mixed Models to Semiparametric Regression*

- Aug 3, 2008, *Calibrating Environmental Engineering Models*, Invited Talk, JSM 2008

- May 10, 2007, *Large Sample Theory of Penalized Splines*, Mathematics Department, Binghamton University

- Feb 12, 2007, *Large Sample Theory of Penalized Splines*, Department of Biostatistics, Harvard University

- Sep 2007, *Calibrating Environmental Engineering Models*, Sandia CSRF Workshop on Large-Scale Inverse Problems and Quantification of Uncertainty

- Nov 4, 2006, *Calibrating Environmental Engineering Models*, Keynote Address at Harvard University Workshop on Environmental Statistics

- Mar 24, 2006, *Penalized Splines and Financial Market Data*, Keynote Address at Conference on "Statistical Modeling in Finance," Fox School of Business, Temple University,

- Nov 4, 2005, *Exploring the Information in P-values* Department of Mathematics and Statistics, University of Massachusetts

- Aug 16, 2005, *Exploring the Information in P-values* , Invited Talk, Conference on "Nonparametric Models for Complex Biological Data," University of California, Davis

## SHORT COURSES:

- *Statistical Analysis of Financial Data with R*, JSM, Chicago, Aug 2016

- *Semiparametric Regression with R*, Measurement Error and Complex Data Workshop, Texas A&M University.

- *Statistical Analysis of Financial Data with R*, JSM, Seattle, Aug 2015

- *Measurement Error in Health Studies*, ENAR, Mar 2008.

- *Measurement Error in Health Studies (six lecture short course)*, Mar 4–6, 2005: Department of Biostatistics, Harvard University

- *Measurement Error in Health Studies (six lecture short course)*, Nov 28–30, 2005: Department of Biostatistics, Johns Hopkins University

- One day short course on *Semiparametric Regression*. Aug 2009, JSM-2009, Washington DC

- One day short course on *Measurement Error Models*. ENAR Spring Meetings, Washington DC, Mar 2009

- *Semiparametric Regression*, Feb 2008, Merck, Rahway, NJ

- *Measurement Error Models* November 28-30, 2005, Department of Biostatistics, Johns Hopkins University

- *Measurement Error Models* March 4-6, 2005, Department of Biostatistics, Harvard

- *Semiparametric Regression*, August 9, 2005, JSM-2005, Minneapolis

- One day short course on *Semiparametric Regression*. ENAR Spring Meetings, Pittsburgh, PA, March 28, 2004.

- *Measurement Error Models*, December 13, 2001: 57th Annual Deming Conference, Atlantic City, NJ.

- One day short course on *Measurement Error Models*. ENAR Spring Meetings, Chicago, Illinois, March 19, 2000.

- Food and Drug Administration, Rockville, MD, Sept 2000.

- Three-day short course on *Measurement Error Models*. The Twenty-fourth Annual Summer Institute of Applied Statistics, Brigham Young University, June 16–18, 1999.

- Six-hour courses on *Measurement Error in Nonlinear Models*, Continuing Education at Joint Statistical Meetings, Dallas, Texas, August 9, 1998 (with R.J. Carroll and L.A. Stefanski)


## RESEARCH GRANTS AND CONTRACTS:

- Low-Rank Functional Data Analysis for Time-Resolved Spectroscopy and the Search for Earth-Like Exoplanets

  PI: Thomas Loredo.

  Co-PIs: David Ruppert.

  NSF: DMS

  Start Date: 08/01/2022 End Date: 07/31/2024

  $304,670

- Collaborative Research: Photometric redshifts via Bayesian functional data analysis

  PI: Thomas Loredo.

  Co-PIs: David Ruppert.

  7/1/2018 – 6/30/2021 and NCE to 6/30/2023

  $537,398

- Functional Data Analysis For Synoptic Time-Domain Astronomy. OSP Number: 69231/A001.

  PI: Thomas Loredo.

  Co-PIs: David Ruppert.

  Department: Center Radiophysics And Space Research. Sponsor: Directorate for Mathematical & Physical Sciences NSF Sponsor Agreement ID: AST-1312903

- Cellular metabolism in lymphocytes in ME/CFS

  PI: Maureen Hanson

  4/15/15-3/31/18, Role: Collaborator

  Mitochondrial respiration and glycolysis will be examined in PBMCs and fractionated PBMCs in ME/CFS patients and controls.

  NIH NIAID 1R21AI117595

- Sep 1, 2009 – Aug 31, 2013: NSF AST-0908439

  T. Loredo (PI)

  "Multilevel Modeling of Active Galaxy Populations"

  The goal of the study is to develop powerful new methods for the analysis of astronomical survey data that account for selection effects and source uncertainties via two or more levels of randomness, an upper level describing a source population and lower levels describing uncertainty in measurements.

  Role: Co-investigator. Total award: $668,600

- Jan 1, 2009–Dec 31, 2011: 1R01NS060910-01A2, "Statistical Methods for Multilevel Multivariate Functional Studies,"

  National Institute of Neurological Disorders and Stroke

  Ciprian Crainiceanu, Johns Hopkins, PI.

  B. Caffo, N. Punjabi, D. Ruppert, co-investigators.

  Total award: $365,061 for 2009, $351,000 for 2010, $350,936 for 2011.

- "Asymptotic Theory of Penalized Splines and Calibration of Computationally Expensive Models,"

  July 1, 2008–June 30, 2011: NSF DMS 0805975

  Role: PI

  Total award: $179,768.

- 2004–2007: NSF DMS 0434390, "Integrated Statistical and Optimization Analysis for Computationally Expensive Models of Complex Environmental Systems," (Joint with Christine Shoemaker) Total award: $626,354.

- 2000–2003: Co PI, EPA "Statistical Monitoring of Waterborne Pathogen Concentrations" (with Jery Stedinger, Civil and Environmental Engineering). $305,494 over three years. One month summer support for each of three years for David Ruppert.

- 1998–2001: Principle Investigator, NSF Grant, "Nonparametric Regression," DMS-9804058, Total award: $85,971. 1 month per summer support.

- 1998–1999: Faculty investigator on SRC grant, "Methods for Modeling Stochastic Processes in Semiconductor Manufacturing," 97-FJ-490, Lee Schruben, PI. Total award: $400,000. 0.5 months per summer support to Ruppert.

- 1998–1999: Faculty investigator on NSF grant, "Methods for Modeling Stochastic Processes in Semiconductor Manufacturing," DMI-9713549, Lee Schruben, PI. Total award: $799,999. 1 month per summer to Ruppert.

- 1996–1998: Principle Investigator, NSF Grant, "Nonparametric Estimation in Engineering," DMS-9626762, Total award: $50,000.

- 1993–1996: Principle Investigator, NSF Grant DMS-9306196, "Problems in Statistical Modeling," Total award: $100,000.

- 1991: Principal Investigator, NSF Grant, "U.S.-Australia cooperative research: topics in semiparametric modeling."

- 1990–1993: Principal Investigator, NSF Grant, "Problems in statistical modeling."

- 1988–90: Principal Investigator, NSF Grant, "Transformation Techniques in Regression."

- 1981-87: Co-Principal Investigator, NSF Grant, "Problems in Mathematical Statistics."

- 1980–82: Principal Investigator, National Marine Fisheries Contract, "Biological Simulation Model for the Atlantic Menhaden."

- 1978–80: Associate Investigator, NSF Grant, "Problems in Mathematical Statistics."

## OTHER GRANTS:

- 1991: Principal Investigator, GE grant, "Faculty and course development in continuous improvement/total quality management."

## OTHER SCHOLARLY ACTIVITIES:

- 2014–17: Co-editor-elect, then Co-editor *J. of the American Statistical Association, Theory & Methods*

- 2013–4: Chair-elect then Chair, ASA Section on Nonparametric Statistics

- 2010 – 2012: Editor, *Electronic Journal of Statistics*

- 2001 – 2004: Member, NIH SMEM-5 (change to BMRD) Study Section (meets three times per year to evaluate grant proposals)

- Jan. 1999 – 2004: Associate Editor, *Biometrics*

- Dec. 1998: Member, NSF Screening Panel.

- Jan. 1994 – July, 1999: Editor, IMS *Lecture Notes—Monographs Series*.

- Jan. 1994 – Jun. 1995: Member, Joint AMS-IMS-SIAM Committee on Summer Research Conferences (chair: July 1994–June 1995)

- Jun. l983 – Dec. 1987: Associate Editor, *The American Statistician*.

- Feb. 1988 – Dec. 1996: Associate Editor, *J. Amer. Statist. Assoc.*

- May 1989 - Dec. 1991: Associate Editor, *The Annals of Statistics*.

- Organized ARO-sponsored workshop "Function estimation and statistical applications," Ithaca, New York, June 1990.

## PH.D. STUDENTS:

1. Patrick Crockett, (1983), Nonparametric density and moment estimation in random coefficients regression models. Deceased.

2. Edward Frees, (1983), Construction of sequential age replacement policies via stochastic approximation. Now at Emeritus, School of Business and Department of Statistics, Retired from the University of Wisconsin, Madison.

3. Leonard A. Stefanski, (1983), Influence and measurement error in logistic regression. Now Chair, Department of Statistics, North Carolina State University.

4. David M. Giltinan, (1983), Bounded influence estimation in heteroscedastic linear model. Retired from Genetech.

5. Douglas G. Simpson, (1985), Aspects of robust estimation for discrete data. Now Chair at Department of Statistics, University of Illinois-UC.

6. Arnold Stromberg (1989), Robust efficient estimation of nonlinear regression parameters. Now at Department of Statistics, University of Kentucky.

7. Miguel Nakamura (1989), Transformations to symmetry in the transform-both-sides model. Now at CIMAT, Guanajuato, Mexico.

8. Mary Dowling (1990), Parameter estimation in nonlinear regression with covariate measurement error.

9. Karen Bandeen Roche (1990), A receptor-based model for the statistical analysis of air pollution data: source apportionment with one source unknown. Now Chair, Department of Biostatistics, Johns Hopkins.

10. Naisyin Wang (1992), Semiparametric transform-both-sides regression models. Now at Department of Statistics, University of Michigan.

11. Victoria Chen (1993), Applying experimental design and regression splines to high-dimensional continuous-state stochastic dynamic programming. Now at Industrial, Manufacturing, and Systems Engineering, UT-Arlington

12. Jean-Didier Opsomer (1995). Optimal bandwidth selection for fitting an additive model by local polynomial regression. Now at Westat.

13. Gang Zhou (1995). Parameter design using heteroscedastic regression methodology and optimal designs. Last known position: Riskmetrics.

14. Andrew Schulman (1998). A Comparison of Local Bandwidth Selectors for Local Polynomial Regression. Now at EPA.

15. John Staudenmayer (2000). Nonparametric regression with measurement error. Now at UMass-Amherst.

16. Yan Yu (2001). Penalized spline estimation for partially linear single index models. Now at University of Cincinnati.

17. Trevor Park (2003). A Penalized Likelihood Approach to Principal Component Stabilization, Now at Department of Statistics, First position: University of Florida. Now at the University of Illinois-UC.

18. Ciprian Crainiceanu, (2003). Nonparametric Likelihood Ratio Testing, Now at Department of Biostatistics, Johns Hopkins Unversity.

19. Matt Briggs (2004). Assessing the Value of Yes/No Forecasts. Statistical consultant and Adjunct Professor of Statistical Science, Cornell University.

20. Lisa Madsen (2004). Regression with Spatially Misaligned Data, Department of Statistics, Now at Oregon State University.

21. Minbok Kim (2008). Consistent Variable Selection via Adaptive Diagonal Ridge Estimator in Regression Models, First position: Samsung.

22. Nikolay Bliznyuk (2008). Posterior Approximation by Interpolation for Bayesian inference in Computationally Expensive Statistical Models, first position: postdoc, Biostatistics, Harvard School of Public Health. Now Assistant Professor, Department of Agricultural and Biological Engineering, University of Florida.

23. Emmanuel Sharef (2008). Nonparametric Frailty Models for the Analysis of Clustered Survival Data, first position: Morgan-Stanley. Now at Pimco.

24. Ben Shaby (2009). Tools for Hard Bayesian Computations, first position: postdoc at SAMSI. Now Assistant Professor, Department of Statistics, Penn State University.

25. Yingxing Li (2011). Aspects Of Penalized Splines, first position: The Wang Yanan Institute for Studies in Economics, Xiamen University.

26. Luo Xiao (2012). Topics in Bivariate Smoothing, first position: postdoc in Biostatistics, Johns Hopkins University. Now Assistant Professor, NC State University.

27. Mathew McLean (2013). On Generalized Additive Models for Regression With Functional Data, first position: postdoc in Statistics, Texas A&M University.

28. Kunlaya Soiaporn (2014). On the Modeling of Multiple Functional Outcomes with Spatially Heterogeneous Shape Characteristics, first position: Comscore.

29. Benjamin Risk, (2015). Topics in Independent Component Analysis, Likelihood Component Analysis, and Spatiotemportal Mixed Modeling, Assistant Professor, Department of Biostatistics, Emory University.

30. Dan Kowal (2017). Bayesian Methods for Functional and Time Series Data, first position: Assistant Professor, Department of Statistics, Rice University.

31. Yang Liu (2020). Nonparametric density estimation and regression on a network, first position: Cubist Systematic Investing

32. Wentian Huang (2021) Nonparametric and Semiparametric Approaches to Functional Data Modeling, First position: Teladoc.

33. Tao Zhang (2022). Topics in modern regression modeling, first position: Point72 Asset Management

34. David Kent (2023). Smoothness-Penalized Deconvolution: Rates of Convergence, Choice of Tuning Parameter, and Inference, First position, Visiting Assistant Professor, Statistics and Data Science, Cornell University.

January 30, 2024