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Date and Place of Birth: 1958; Washington, DC

Degrees

- 1980 B.S., Applied Mathematics and Computer Science,
University of Virginia School of Engineering and Applied Science
- 1981 M.S., Applied Mathematics and Computer Science,
University of Virginia School of Engineering and Applied Science
- 1987 Ph.D., Statistics, University of North Carolina at Chapel Hill

Experience

- 2006– **Member**, Center for Comparative Medicine and Translational Research,
North Carolina State University
- 2005– **William Neal Reynolds Distinguished Professor of Statistics**, College of
Agriculture and Life Sciences, North Carolina State University
- 2003– **Associate Faculty Member**, Center for Research in Scientific Computation,
North Carolina State University
- 2001– **Adjunct Professor**, Department of Biostatistics and Bioinformatics, Duke University
- 1998– **Professor**, Department of Statistics, North Carolina State University
- 1996-1998 **Associate Professor**, Department of Statistics, North Carolina State University
- 1994-1996 **Associate Professor**, Department of Biostatistics, Harvard School of Public Health
- 1993-1994 **Associate Professor**, Department of Statistics, North Carolina State University
- 1987-1993 **Assistant Professor**, Department of Statistics, North Carolina State University
- 1987 **Visiting Lecturer**, Department of Statistics, University of North Carolina at Chapel Hill
- 1985 **Research Assistant**, Statistics and Biomathematics Branch, National Institute of
Environmental Health Sciences, Research Triangle Park, North Carolina
- 1982-1986 **Graduate Teaching Assistant**, Department of Statistics, University of North Carolina
at Chapel Hill
- 1981-1982 **Consultant**, Booz, Allen, and Hamilton, Inc., Bethesda, Maryland

Professional and honor societies

American Statistical Association (ASA)
Institute of Mathematical Statistics (IMS)
The International Biometric Society (IBS), Eastern North American Region (ENAR)
International Statistical Institute (ISI)
American Association for the Advancement of Science (AAAS)
Tau Beta Pi
Sigma Xi

Honors and distinctions

- 1993 American Statistical Association Award for Outstanding Statistical Application
- 1994 Elected Ordinary Member, International Statistical Institute
- 1998 Fellow, American Statistical Association
- 2002 George Challis Distinguished Lectureship in Biostatistics, University of Florida
- 2003 Alumni Distinguished Graduate Professor, North Carolina State University
- 2003 Myrto Lefkopoulou Distinguished Lectureship, Harvard School of Public Health
- 2005 Alumni Outstanding Research Award, North Carolina State University
- 2005 William Neal Reynolds Distinguished Professor of Statistics, North Carolina State University
- 2006 Bernard Greenberg Distinguished Lecturer, Department of Biostatistics, University of North Carolina at Chapel Hill
- 2006 Fellow, Institute of Mathematical Statistics
- 2006 Fellow, American Association for the Advancement of Science

Editorial boards

- 1992–1999 Editorial Advisory Board, *Chemometrics and Intelligent Laboratory Systems*
- 1995–2001 Associate Editor, *Journal of the American Statistical Association*
- 1997–2000 Associate Editor, *Biometrics*
- 2000–2002 Coordinating Editor, *Biometrics*
- 2003–2005 Associate Editor, *Statistica Sinica*
- 2006–2008 Executive Editor, *Biometrics*
- 2006– Editorial Board, ASA-SIAM Series on Statistics and Applied Probability

Selected professional activitiesProfessional society involvement

- At-large Representative, Treasurer, President, North Carolina Chapter of American Statistical Association (ASA), 1989–1991
- ASA General Methodology Section Program Chair, 1994 Joint Statistical Meetings
- ENAR (Eastern North American Region)/WNAR of the International Biometric Society (IBS) representative to the Biological Sciences Section of AAAS, 1996–2001
- ENAR Program Chair, 1998 Joint Statistical Meetings
- Regional Committee, ENAR, 1999–2001
- Institute of Mathematical Statistics (IMS) Nominating Committee, 1999
- Program Committee, 2000 ENAR Spring Meetings
- Co-Organizer, Workshop for Junior Researchers, ENAR, 2001, 2002
- Program Committee, International Biometric Conference (IBC) 2002
- Program Committee, IBC 2004
- Chair, IBS Ad Hoc Committee on Electronic Publication of *Biometrics*, 2001–2002
- Co-Chair, IBS Ad Hoc Committee on Print and Electronic Publication of *Biometrics*, 2002
- Co-Chair, IBS Strategic Planning Committee, 2002–2005
- IBC Executive Committee (Editorial Representative), 2002–2003
- IBS Council, 2002–2009
- President-Elect, ENAR, 2003; President, ENAR, 2004
- Member, COPSS, 2003–2005
- Chair-Elect, Biometrics Section, ASA, 2004; Chair, Biometrics Section, ASA, 2005
- Chair, IBS Editorial Advisory Committee, 2004–2007
- ASA Committee on Nominations, 2006–2007 (Chair 2006)

Scientific activities

- U.S. Food and Drug Administration (FDA) Advisory Committee for Pharmaceutical Science, 1994-1997
- NIH Center for Scientific Review (CSR) AIDS and Related Research (6) (AARR-6) Study Section, 1998-2001
- NIH CSR Social Sciences, Nursing, Epidemiology and Methods (5) (SNEM-5) Study Section, 2000-2003
- NIH CSR Biostatistical Methods and Research Design (BMRD) Study Section, 2003-2006
- Co-Organizer, AMS-IMS-SIAM Summer Research Conference, "Emerging Issues in Longitudinal Data Analysis," Mount Holyoke College, 2002
- Program Leader, Program on Inverse Problem Methodology in Complex Stochastic Models, and Local Development Committee, Statistical and Applied Mathematical Sciences Institute (SAMSI), 2002
- Guest Editor, *Statistica Sinica*, Special Issue on Emerging Issues in Longitudinal Data Analysis, 2003
- U.S. FDA Clinical Pharmacology Subcommittee of the Advisory Committee for Pharmaceutical Science, 2003-2006
- Chair, NIH CSR Biostatistical Methods and Research Design (BMRD) Study Section, 2004-2006
- Scientific Advisory Committee, Johns Hopkins Particulate Matter Research Center 2006-
- External Advisory Committee, Center for Prevention and Treatment Methodology, Penn State University (2 P50 DA010075), 2006-2010
- Consultant, U.S. FDA Clinical Pharmacology Subcommittee of the Advisory Committee for Pharmaceutical Science, 2006-
- Scientific Advisory Committee, Johns Hopkins Particulate Matter Research Center 2006-
- Organizing Committee, SAMSI 2007 Summer Program on Dynamic Treatment Regimes and Multistage Decision-Making
- NIH CSR AIDS Clinical Studies and Epidemiology (ACE) Study Section, 2007-2011

Selection committees

- Search Committee, Editor, *JASA Applications and Case Studies*, 2001
- Search Committee, Co-Editor, *Biometrics*, 2000, 2002, 2004 (Chair), 2005 (Chair), 2006 (Chair), 2007 (Chair)
- Committee of Presidents of Statistical Societies (COPSS) Snedecor Award Selection Committee (IMS representative), 2002-2006
- ASA Wilks Medal Committee, 2003-2007 (Chair 2007)
- Mortimer Spiegelman Award Committee, American Public Health Association, 2003-2006
- Search Committee, Editor, *Biometric Bulletin*, 2004 (Chair)
- Search Committee, Book Review Editor, *Biometrics*, 2005 (Chair)
- ASA Selection Committee for the *Journal of the American Statistical Association* Theory and Methods Editor, 2006-2007

Major administrative responsibilitiesDepartment Committees, North Carolina State University:

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| 1989-1992, 1999 | Admissions Committee |
| 1991 | Leadership Review Committee |
| 1988-1991, 1997 | Basic Exam Committee |
| 1992-1993 | Preliminary Written Exam Committee |
| 1989-1990 | Organizer, Tuesday Seminar Series |
| 1997 | Search Committee |
| 1998 | Biomathematics Search Committee |
| 1998- | Course and Curriculum Committee |
| 1998- | Organizer, Biomedical Statistics Working Group |
| 1999-2000 | Bioinformatics Search Committee |
| 2002 | Co-Organizer, Department of Statistics Retreat |
| 2001 | Search Committee |
| 2001, 2005 | Ph.D. Qualifying Exam Committee |
| 2002 | Search Committee (Chair) |
| 2002 | Ph.D. Written Exam Committee |
| 2003 | Search Committee (Chair) |
| 2005 | Search Committee |
| 2006-2007 | Master's Exam Committee |
| 2006-2007 | Web Committee |
| 2007 | Bioinformatics Search Committee |

University Committees, North Carolina State University:

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| 1989-1991 | University Courses and Curricula Committee |
| 1997-2000 | College of Agriculture and Life Sciences Research Committee |
| 1998 | College of Physical and Mathematical Sciences Applied Science Building Committee |
| 1999-2000 | Search Committee, Dean of College of Physical and Mathematical Sciences |
| 2004 | Selection Committee, Alumni Distinguished Graduate Professors |
| 2006 | Holladay Medal Selection Committee |
| 2006 | Keller Dissertation Award Selection Committee |
| 2006 | Alumni Outstanding Research Award Selection Committee |
| 2006 | Search Committee, Director, Center for Comparative Medicine and Translational Research |

Other Activities, North Carolina State University:

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| 2006- | Executive Committee, Center for Comparative Medicine and Translational Research |
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Department Committees, Harvard School of Public Health:

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| 1994-1995 | Curriculum Committee |
| 1994-1995 | Seminar Committee (Chair) |
| 1994-1995 | Student Advising Committee |
| 1995-1996 | Admissions Committee (Chair) |
| 1995-1996 | Committee on Curriculum and Qualifying Exam Reform |

Teaching experience

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| 1982-86 | Introduction to Statistics, University of North Carolina at Chapel Hill |
| 1987 | Introduction to Probability and Distribution Theory, North Carolina State University |
| 1988-93,1996 | Experimental Statistics for the Biological Sciences I, North Carolina State University |
| 1987-93 | Statistical Consulting, North Carolina State University |
| 1988 | Intro to Heteroscedastic Regression Models, North Carolina State University |
| 1990 | Statistical Consulting, North Carolina State University |
| 1989-93 | Experimental Statistics for the Biological Sciences II, North Carolina State University |
| 1992 | Topics in Nonlinear Regression, North Carolina State University |
| 1995 | Generalized (Non)linear Models, Harvard School of Public Health |
| 1995 | Nonlinear Repeated Measurement Models, Harvard School of Public Health |
| 1996-2005 | Nonlinear Statistical Models, North Carolina State University |
| 1998-2002, 2005, 2007 | Applied Longitudinal Data Analysis, North Carolina State University |
| 1998-99, 2003-05 | Preparation for Statistical Research, North Carolina State University |
| 2002 | Inverse Problems in Complex Stochastic Models, North Carolina State University/SAMSI |

Major grants – Principal Investigator unless noted

- 1990-1993 National Science Foundation DMS 9003176, Estimation in nonlinear heteroscedastic regression models (\$27,250)
- 1996-2000 National Institutes of Health R01 AI41214, Statistical methods for repeated measures data in AIDS (\$375,207, 40% effort)
- 2000-2003 National Institutes of Health R01 CA085848, Flexible methods for correlated biomedical data (\$539,312, 30% effort)
- 2003-2007 National Institutes of Health R01 CA085848, Flexible statistical methods for biomedical data (\$865,421, 30% effort)
- 2000-2003 National Institutes of Health R01 AI31789, Statistical methods for AIDS clinical trials (PI A. Tsiatis, Department of Statistics, NCSU, \$756,616, 30% effort)
- 2003-2008 National Institutes of Health R37 AI031789, Statistical methods for AIDS clinical trials (PI A. Tsiatis, Department of Statistics, NCSU, \$1,456,343, 40% effort)
- 2000-2008 National Institutes of Health R13 CA90250, Workshop for junior biostatisticians in cancer research (Co-PI with X. Lin, Department of Biostatistics, Harvard School of Public Health, on behalf of ENAR, \$250,000, 0% effort)
- 2002-2006 National Institutes of Health R01 GM67299, Modeling, estimation, and control in HIV dynamics (PI H.T. Banks, Center for Research in Scientific Computation, NCSU, \$1,535,216, 11.1% effort)
- 2003-2007 National Institutes of Health T15 HL75859, Engaging the next generation of biostatisticians (Co-PI with D. Boos, Department of Statistics, NCSU, \$809,714, 2.5% effort)
- 2004-2007 National Institutes of Health R21 DA019800, Methodology for adaptive treatment strategies (PI S.A. Murphy, Department of Statistics, University of Michigan, \$223,670, 5% effort)
- 2005-2006 National Institutes of Health P01 AI64518, Center for AIDS Research Biostatistics and Computational Biology Core (PI T. Kepler, Department of Biostatistics and Bioinformatics, Duke University, \$142,092, 5% effort)
- 2006-2011 National Institutes of Health T32 HL079896, Integrated biostatistical training for CVD research (\$661,340, 10% effort)
- 2006-2011 National Institutes of Health R01 AI071915, HIV Mathematical/statistical modeling to inform design of HIV clinical trials (PI H.T. Banks, Center for Research in Scientific Computation, NCSU, \$3,495,847, 18% effort)
- 2007-2010 National Institutes of Health T15 HL75859, Engaging the next generation of biostatisticians (Co-PI with D. Boos, Department of Statistics, NCSU, \$758,328, 5% effort)

Pending grants – Principal Investigator unless noted

- 2007–2011 National Institutes of Health R01 CA085848, Flexible statistical methods for biomedical data (\$1,155,549, 2.4 person-months effort, priority score 133, 0.5 percentile)
- 2008–2013 National Institutes of Health R37 AI031789, Statistical methods for AIDS clinical trials (PI A. Tsiatis, Department of Statistics, NCSU, \$1,797,850, 4.8 person-months effort; five year MERIT extension approved by NIAID Council)
- 2007–2012 National Institutes of Health U54 RR024383, UNC Clinical Translational Science Award Award (PI P. Watkins, Department of Medicine, UNC-Chapel Hill, \$355,601 for NCSU subcontract, 1.2 person-months effort)
- 2007–2012 National Institutes of Health R01 HL0804026, Short-term cardiovascular-respiratory regulation in aging (PI M. Olufsen, Department of Mathematics, NCSU, \$1,972,892, 1.2 person months effort)
- 2007–2009 Morris Animal Foundation, Methylprednisolone sodium succinate and polyethylene glycol in canine spinal cord injury (PI N. Olby, Department of Clinical Sciences, NCSU College of Veterinary Medicine) \$79,920, 0.0 person months effort)

Doctoral theses directed

1. Bruce Belanger (Ph.D., September 1994, N.C. State University)
(Dr. Belanger won one of the top three student prizes awarded by ENAR for a paper from his dissertation, 1994)
2. Qi Zeng (Sc.D., June 1996, HSPH)
(Dr. Zeng won the David P. Byar Young Investigator Award given by the Biometrics Section of ASA, a student travel award from ENAR, and a student paper award from the Biopharmaceutical Section of ASA for papers from her dissertation, 1996)
3. Karen Higgins (Sc.D., July 1996, HSPH)
(Dr. Higgins won a student paper award from the Biopharmaceutical Section of ASA for a paper from her dissertation, 1996)
4. Beow Yeap (Sc.D., August 1998, HSPH)
(Dr. Yeap won the John Van Ryzin Award given by ENAR for the top student paper for a paper from her dissertation, 1998)
5. Ann Oberg (Ph.D. August 1999, N.C. State University)
(Dr. Oberg won a student travel award from ENAR for a paper from her dissertation, 1999)
6. John Szumiloski (Ph.D. October 1999, N.C. State University)
7. Hyjein Ko (Ph.D. December 1999, N.C. State University)
(Dr. Ko won a student travel award from ENAR for a paper from her dissertation, 1999)
8. Alan Hartford (Ph.D. April 2000, N.C. State University)

9. Jared Lunceford (Ph.D. August 2001, N.C. State University)
(Dr. Lunceford won a student travel award from the Biometrics Section of ASA for a paper from his dissertation, 2001, and the John Van Ryzin Award given by ENAR for the top student paper for a paper from his dissertation, 2002)
10. Junliang Chen (Ph.D. December 2001, N.C. State University)
11. Xiao Song (Ph.D. May 2002, N.C. State University) (Dr. Song won a student travel award from the Biopharmaceutical Section of ASA for a paper from her dissertation, 2001)
12. Selene Leon, Ph.D. August 2003, N.C. State University
13. Erning Li (Ph.D. August 2004, N.C. State University) (Dr. Li won a student travel award from ENAR for a paper from her dissertation, 2003)
14. Jiang Lin (Ph.D. December 2004, N.C. State University)
15. Xianzheng Huang (Ph.D. August 2006, N.C. State University) (Dr. Huang won a student travel award from ENAR for a paper from her dissertation, 2005)
16. Kirsten Doehler (Ph.D. August 2006, N.C. State University)
17. Mandy Bergquist (Ph.D. December 2006, N.C. State University)
18. Min Zhang (Ph.D. expected May 2008, N.C. State University)
19. Lihua Tang (Ph.D. expected May 2008, N.C. State University)
20. Weihua Cao (Ph.D. expected May 2009, N.C. State University)

Bibliography

Books and monographs

1. Davidian, M. and Giltinan, D.M. (1995) *Nonlinear Models for Repeated Measurement Data*. London: Chapman & Hall.
2. Fitzmaurice, G., Davidian, M., Verbeke, G., and Molenberghs, G. (eds). (2007) *Longitudinal Data Analysis: A Handbook of Modern Statistical Methods*. Boca Raton: Chapman & Hall/CRC Press, in press.
3. Davidian, M. (2008) *Introduction to Longitudinal Data Analysis*. New York: Springer (in progress).

Peer-reviewed publications

1. Davidian, M. and Carroll, R.J. (1987) Variance function estimation. *Journal of the American Statistical Association* **82**, 1079–1091.
2. Davidian, M. and Carroll, R.J. (1988) A note on extended quasi-likelihood. *Journal of the Royal Statistical Society, Series B* **50**, 74–82.
3. Davidian, M., Carroll, R.J., and Smith, W. (1988) Variance functions and the minimum detectable concentration in assays. *Biometrika* **75**, 549–556.
4. Davidian, M. (1990) Estimation of variance functions in assays with possibly unequal replication and nonnormal data. *Biometrika* **77**, 43–54.
5. Davidian, M. and Haaland, P. (1990) Regression and calibration with nonconstant error variance. *Chemometrics and Intelligent Laboratory Systems* **9**, 231–248.
6. Davidian, M. and Gupta, B.S. (1991) The use of regression analysis in nonwovens research. *Proceedings of the TAPPI 1991 Nonwovens Conference*, Atlanta, Georgia: TAPPI Press, 27–33.
7. Rives, D.V., Davidian, M., and Ley, D.H. (1991) Infectious bursal disease virus titers may be misleading. *Breakthrough, North Carolina Cooperative Extension Service* **15**:2.
8. Davidian, M. and Gallant, A.R. (1992) Smooth nonparametric maximum likelihood for population pharmacokinetics, with application to quinidine. *Journal of Pharmacokinetics and Biopharmaceutics* **20**, 529–556.
9. Davidian, M. and Giltinan, D.M. (1993) Some general estimation methods for nonlinear mixed effects models. *Journal of Biopharmaceutical Statistics* **3**, 23–55.
10. Davidian, M. and Giltinan, D.M. (1993) Some simple methods for estimating intraindividual variability in nonlinear mixed effects models. *Biometrics* **49**, 59–73.
11. Davidian, M. and Giltinan, D.M. (1993) Analysis of repeated measurement data using the nonlinear mixed effects model. *Chemometrics and Intelligent Laboratory Systems* **20**, 1–24.
12. Davidian, M. and Gallant, A.R. (1993) The nonlinear mixed effects model with a smooth random effects density. *Biometrika* **80**, 475–488.
13. Giltinan, D.M. and Davidian, M. (1994) Assays for recombinant proteins: A problem in nonlinear calibration. *Statistics in Medicine*, **13**, 1165–1179.
14. Yuh, L., Beal, S.L., Davidian, M., Harrison, F., Hester, A., Kowalski, K., Lindstrom, M., Vonesh, E., and Wolfinger, R. (1994) Population pharmacokinetic/pharmacodynamic methodology and applications: a bibliography. *Biometrics* **50**, 566–575.
15. Noga, E.J., Engel, D.P., Arroll, T.W., McKenna, S., and Davidian, M. (1994) Low serum antibacterial activity coincides with increased prevalence of shell disease in blue crabs *Callinectes sapidus*. *Diseases of Aquatic Organisms* **19**, 121–128.
16. Nelson, P.R., Sellon, R., Novotney, C., Devera, C., Davidian, M., English, R., Tompkins, M., and Tompkins, W. (1995) Therapeutic effects of diethylcabamazine and 3'-azido-3'-deoxythmidine on feline leukemia virus lymphoma formation. *Veterinary Immunology and Immunopathology* **46**, 181–194.

17. Belanger, B.A., Davidian, M., and Giltinan, D.M. (1996) The effect of variance function estimation on nonlinear calibration intervals for immunoassay. *Biometrics* **52**, 192–210.
18. Jacobson, J., Davidian, M., Rainey, P.M., Hafner, R., van der Horst, C., and Huft, B.J. (1996) Pyrimethamine pharmacokinetics in HIV-positive patients seropositive for Toxoplasma gondii. *Antimicrobial Agents and Chemotherapy* **40**, 1360–1365.
19. Trettin, C.C., Davidian, M., Jurgensen, M.F., and Lea, R. (1996) Organic matter decomposition following harvesting and site preparation of a boreal, forested wetland. *Soil Science Society of America Journal* **60**, 1994–2003.
20. Liu, M. N., Foegeding, E.A., and Davidian, M. (1996) Denaturation and aggregation of chicken myosin isoforms. *Journal of Agricultural and Food Chemistry* **44**, 1435–1440.
21. Wang, N. and Davidian, M. (1996) A note on covariate measurement error in nonlinear mixed effects models. *Biometrika* **83**, 801–812.
22. Zeng, Q. and Davidian, M. (1997) Bootstrap adjusted calibration confidence intervals for immunoassay. *Journal of the American Statistical Association* **92**, 278–290.
23. Higgins, K.M., Davidian, M., and Giltinan, D.M. (1997) A two-step approach to measurement error in time-dependent covariates in nonlinear mixed effects models. *Journal of the American Statistical Association* **92**, 436–448.
24. Zeng, Q. and Davidian, M. (1997) Testing homogeneity of intra-run variance parameters in immunoassay. *Statistics in Medicine* **16**, 1765–1776.
25. Zeng, Q. and Davidian, M. (1997) Calibration inference based on multiple runs of an immunoassay. *Biometrics* **53**, 163–175.
26. Higgins, K.M., Davidian, M., Chew, G., and Burge, H. (1998) The effect of serial dilution error on calibration inference for immunoassay. *Biometrics* **54**, 336–348.
27. Smith, A.E., Evans, M.V., and Davidian, M. (1998) Statistical properties of fitted estimates of apparent in vivo metabolic constants obtained from gas uptake data: I. lipophilic and slowly metabolized VOCs. simulation approach. *Inhalation Toxicology* **10**, 383–409.
28. Hu, P., Tsiatis, A.A., and Davidian, M. (1998) Estimating the parameters in the Cox model when covariate variables are measured with error. *Biometrics* **54**, 1407–1419.
29. Davidian, M. (1999) Discussion of “The Bayesian approach to population pharmacokinetic-pharmacodynamic modeling” by Wakefield, Aarons, and Racine-Poon. In *Case Studies in Bayesian Statistics, Volume IV*, Gatsonis, C., Kass, R.E., Carlin, B., Carriquiry, A., Gelman, A., Verdinelli, I., and West M. New York: Springer-Verlag, 257–263.
30. Betts, M.R., Krowla, J.F., Kepler, T.B., Davidian, M., Christopherson, C., Kwok, S., Louie, L., Eron, J., Sheppard, H., Frelinger, J.A. (1999) Human immunodeficiency virus Type 1 specific cytotoxic T lymphocyte activity is inversely correlated with HIV Type 1 viral load in HIV Type 1 infected long-term survivors. *AIDS Research and Human Retroviruses* **15**, 1219–1228.
31. Oberg, A.L. and Davidian, M. (2000) Estimating data transformations in nonlinear mixed effects models. *Biometrics* **56**, 65–72.
32. Hartford, A. and Davidian, M. (2000) Consequences of misspecifying distributional assumptions in nonlinear mixed effects models. *Computational Statistics and Data Analysis* **34**, 139–164.

33. Ko, H. and Davidian, M. (2000) Correcting for measurement error in individual-level covariates in nonlinear mixed effects models. *Biometrics* **56**, 368–375.
34. Neumann, A. U., Lam, N. P., Dahari, H., Davidian, M., Wiley, T. E., Mika, B. P., Perelson, A. S., and Layden, T. J. (2000) Differences in viral dynamics between genotypes 1 and 2 of hepatitis C virus. *Journal of Infectious Diseases* **182**, 28–35.
35. Yeap, B.Y. and Davidian, M. (2001) Robust two-stage estimation in hierarchical nonlinear models. *Biometrics* **57**, 266–272.
36. Tsiatis, A.A. and Davidian, M. (2001) A semiparametric estimator for the proportional hazards model with longitudinal covariates measured with error. *Biometrika* **88**, 447–458.
37. Zhang, D. and Davidian, M. (2001) Linear mixed models with flexible distributions of random effects for longitudinal data. *Biometrics* **57**, 795–802.
38. Altan, S., Manola, A., Davidian, M., and Raghavarao, D. (2001) Constrained four parameter logistic model. In *The Design and Analysis of Potency Assays for Biotechnology Products*, F. Brown and A. Mire-Sluis, eds. Dev. Biol Karger: Basel, v. 107, pp. 71–76.
39. Davidian, M. (2001) Dose calibration. In *Encyclopedia of Environmetrics*, A. El-Shaarwari and W. Piegorsh, eds. John Wiley and Sons: New York.
40. Lunceford, J., Davidian, M., and Tsiatis, A.A. (2002) Estimation of the survival distribution of treatment regimes in two-stage randomization designs in clinical trials. *Biometrics* **58**, 48–57.
41. Tsiatis, A.A., Davidian, M., and McNeney, B. (2002) Multiple imputation methods for testing treatment differences in survival distributions with missing cause of failure. *Biometrika* **89**, 238–244.
42. Chen, J., Zhang, D., and Davidian, M. (2002) Generalized linear mixed models with flexible distributions of random effects for longitudinal data. *Biostatistics* **3**, 347–360.
43. Song, X., Davidian, M., and Tsiatis, A.A. (2002) An estimator for the proportional hazards model with multiple longitudinal covariates measured with error. *Biostatistics* **3**, 511–528.
44. Batchelor, W.B., Tolleson, T., Lars en, R., Hutchison, J., Mantell, R., Huang, Y., Davidian, M., Zhang, D., Sketch, M., Ohman, M.E., Zidar, J.P., Gretler, D., Dibattiste, P., Califf, R.M., and Harrington, R.A. (2002) A randomized comparisons of the platelet inhibitory profiles of abciximab, tirofiban, and eptifibatide during percutaneous coronary intervention: the COMPARE study. *Circulation* **106**, 1470–1476.
45. Song, X., Davidian, M. , and Tsiatis, A.A. (2002) A semiparametric likelihood approach for joint modeling of longitudinal and time-to-event data. *Biometrics* **58**, 742–753.
46. Leon, S., Tsiatis, A.A., and Davidian, M. (2003) Semiparametric estimation of treatment effect in a pretest-posttest study. *Biometrics* **59**, 1048–1057.
47. Yeap, B.Y., Catalano, P.J., Ryan, L.M., and Davidian, M. (2003) A robust two-stage approach to repeated measurements analysis of chronic ozone exposure in rats. *Journal of Agricultural, Biological, and Environmental Statistics* **8**, 438–454.
48. Davidian, M. and Giltinan, D.M. (2003) Nonlinear models for repeated measures data: An overview and update. Editor’s invited paper, *Journal of Agricultural, Biological, and Environmental Statistics* **8**, 387–419.

49. Powell, A.B., Cheshire, R., Laban, E.H., Colvocoressess, J., O'Donnell, P., and Davidian, M. (2004) Growth, mortality, and hatchdate distributions of larval and juvenile spotted seatrout, *Cynoscion nebulosus*, in Florida Bay, Everglades National Park. *Fishery Bulletin* **102**, 142–155.
50. Pieper, K.S., Tsiatis, A.A., Davidian, M., Hasselblad, V., Kleiman, N.S., Boersma, E., Chang, W.C., Griffin, J., Armstrong, P.W., Califf, R.M., and Harrington, R.A. (2004) Differential treatment benefit of platelet glycoprotein IIb/IIIa inhibition with percutaneous coronary intervention versus medical therapy for acute coronary syndromes: Exploration of methods. *Circulation* **109**, 641–646.
51. Li, E., Zhang, D., and Davidian, M. (2004) Conditional estimation for generalized linear models when covariates are subject-specific parameters in a mixed model for longitudinal parameters. *Biometrics* **60**, 1–7.
52. Bodnar, L., Davidian, M., Siega-Riz, A.M., and Tsiatis, A.A. (2004) Marginal structural models for analyzing causal effects of time-dependent treatments: An application in perinatal epidemiology. *American Journal of Epidemiology* **159**, 926–934.
53. Ma, Y., Genton, M., and Davidian, M. (2004) Linear mixed effects models with semiparametric generalized skew elliptical random effects. In *Skew-Elliptical Distributions and their Applications: A Journey Beyond Normality*. Genton, M. G., Ed. Boca Raton, FL: Chapman & Hall/CRC, 339–358.
54. Tsiatis, A.A. and Davidian, M. (2004) Joint modeling of longitudinal and time-to-event data: An overview. Invited paper, *Statistica Sinica* **14**, 809–834.
55. Zhang, D. and Davidian, M. (2004) Likelihood and conditional likelihood inference for generalized additive mixed models for clustered data. *Journal of Multivariate Analysis* **91**, 90–106.
56. Lunceford, J. and Davidian, M. (2004) Stratification and weighting via the propensity score in estimation of causal treatment effects. *Statistics in Medicine* **23**, 2937–2960.
57. Eisenstein, E.L, Bethea, C.F., Muhlbaier, L.H., Davidian, M., Peterson, E.D., Stafford, J.A., and Mark, D.B. (2005) Surgeons' Economic Profiles: Can We Get the “Right” Answers? *Journal of Medical Systems* **29**, 111–124.
58. Davidian, M. and McGilchrist, C.A. (2005) Biometrics. In *Encyclopedia of Biostatistics, Second Edition*, P. Armitage and T. Colton, eds. John Wiley and Sons: New York, v. 1, pp. 486–488.
59. Davidian, M., Tsiatis, A.A., and Leon, S. (2005) Semiparametric estimation of treatment effect in a pretest-posttest study with missing data (with discussion). *Statistical Science* **20**, 261–301.
60. Adams, B.M., Banks, H.T., Davidian, M., Kwon, H.D., Tran, H.T., Wynne, S.N., and Rosenberg, E.S. (2005) HIV dynamics: Data analysis, modeling and treatment protocols. Invited paper, special issue on “Mathematics applied to immunology,” *Journal of Computational and Applied Mathematics* **184**, 10–49.
61. Tsiatis, A.A. and Davidian, M. (2005) Discussion of Prentice, R.L., M. Pettinger, and G.L. Anderson, “Statistical issues arising in the Women’s Health Initiative.” *Biometrics* **61**, 933–935.
62. Huang, X., Stefanski, L.A., and Davidian, M. (2006) Latent-model robustness in structural measurement error models. *Biometrika* **93**, 53–64.

63. Lin, J., Zhang, D., and Davidian, M. (2006) Smoothing spline-based score test for proportional hazards models. *Biometrics* **62**, 803–812.
64. Adams, B.M., Banks, H.T., Davidian, M., and Rosenberg, E.S. (2007) Model fitting and prediction with HIV treatment interruption data. *Bulletin of Mathematical Biology* **69**, 563–584.
65. Rosenberg, E.S., Davidian, M., and Banks, H.T. (2007) Using mathematical modeling and control to develop structured treatment interruption strategies for HIV infection. *Drug and Alcohol Dependence* special supplement issue on “Customizing Treatment to the Patient: Adaptive Treatment Strategies” **88S**, S41-S51.
66. Li, E., Zhang, D, and Davidian, M. (2007) Likelihood and pseudo-likelihood methods for semiparametric joint models for a primary response and longitudinal data. *Computational Statistics and Data Analysis*, in press, doi:10.1016/j.csda.2006.10.008.
67. Tsiatis, A.A. and Davidian, M. (2007) Discussion of “Demystifying double robustness: A comparison of alternative strategies for estimating a population mean from incomplete data,” by J.D.Y. Kang and J.L. Schafer. *Statistical Science*, in press.
68. Davidian, M. (2007) Nonlinear mixed effects models. In *Longitudinal Data Analysis: A Handbook of Modern Statistical Methods*, G. Fitzmaurice, M. Davidian, G. Verbeke, and G. Molenberghs (eds). Boca Raton: Chapman & Hall/CRC Press, in press.
69. Verbeke, G. and Davidian, M. (2007) Joint models for longitudinal data: Introduction and overview. In *Longitudinal Data Analysis: A Handbook of Modern Statistical Methods*, G. Fitzmaurice, M. Davidian, G. Verbeke, and G. Molenberghs (eds). Boca Raton: Chapman & Hall/CRC Press, in press.

Manuscripts under review and in progress

1. Doehler, K. and Davidian, M. (2006) “Smooth” inference for survival functions with arbitrarily censored data. *Statistics in Medicine*, in revision.
2. Zhang, M. and Davidian, M. (2006) “Smooth” semiparametric regression analysis for arbitrarily censored survival data. *Biometrics*, in revision.
3. Tsiatis, A.A., Davidian, M., Zhang, M., and Lu, X. (2006) Covariate adjustment for two-sample treatment comparisons in randomized clinical trials: A principled yet flexible approach. Invited submission to *Statistics in Medicine* special issue on “Statistical methods in HIV/AIDS and its practical application,” in revision.
4. Zhang, M., Tsiatis, A.A., and Davidian, M. (2007) Improving efficiency of inferences in randomized clinical trials using auxiliary covariates. Submitted to *Biometrics*.
5. Banks, H.T., Davidian, M., Hu, S., Kepler, G.M., and Rosenberg, E.S. (2007) Modeling HIV immune response and validation with clinical data. Submitted to *Journal of Theoretical Biology*.
6. Huang, X., Stefanski, L.A., and Davidian, M. (2007) Robustness to latent-model assumptions in joint models for longitudinal data and a primary endpoint. In preparation for *Biometrics*.
7. Tang, L. and Davidian, M. (2007) A time-transformed failure time mixed effects model for clustered, arbitrarily-censored data with “smooth” intra-cluster survival density. In preparation for *Biostatistics*.

Other articles, book reviews, technical reports, and abstracts

1. Rives, D.V., Davidian, M., and Ley, D.H. (1990) Maternal antibodies – a closer look. *Proceedings of the North Carolina Broiler Breeder and Hatchery Management Conference*, 43–45.
2. Davidian, M. and Giltinan, D.M. (1991) Some general methods for estimation in nonlinear mixed effects models. *Proceedings of the Biopharmaceutical Section of the American Statistical Association*, Atlanta, Georgia, 20–29.
3. Davidian, M. and Gallant, A. R. (1992) Nlmix: A program for maximum likelihood estimation of the nonlinear mixed effects model with a smooth random effects density. Department of Statistics, North Carolina State University.
4. Smith, A. E., Davidian, M., Evans, M.V., and Evans, J. S. (1995) Issues in estimating apparent *in vivo* metabolic constants from gas uptake data. *The International Toxicologist, Abstracts of the International Congress of Toxicology*, VII, 89-9-14, July 2–6.
5. Higgins, K., Chew, G., Davidian, M., Milton, D., and Burge, H.A. (1996) *Journal of Allergy and Clinical Immunology* **97** (1), Part 3, 135.
6. Neumann, A.U., Lam, N.P., Davidian, M, Dahari, H., Wiley, T.W., Perelson, A.S., and Layden T.J. (1999) Differences in hepatitis C virus (HCV) dynamics between HCV of genotype 1 and genotype 2. *Hepatology* **3** (4), Part 2, Suppl. S., 121
7. Bodnar, L., Davidian, M., Siega-Riz A., and Tsiatis A. (2002) Marginal structural models for estimating the causal effect of prenatal iron supplementation on risk of postpartum anemia. *American Journal of Epidemiology* **155** (11), Suppl. S., 263.
8. Davidian, M. (2003) Review of *Hierarchical Linear Models: Applications and Data Analysis Methods (2nd ed.)* by S.W. Raudenbush and A.S. Byrk, *Journal of the American Statistical Association* **98**, 767–768.
9. Davidian, M. (2006) Introduction to statistical population modeling and analysis for pharmacokinetic data. Invited white paper for the International Workshop on Uncertainty and Variability in Physiologically Based Pharmacokinetic (PBPK) Models, <http://www.epa.gov/ncct/uvpkm/>.

Major invited presentations

1. Variance function estimation in heteroscedastic regression models. Invited paper, Spring Meeting of the Institute of Mathematical Statistics, Dallas, Texas, March 1987.
2. Variance function estimation in heteroscedastic regression, with application to the analysis of assay data. Department of Statistics, North Carolina State University, March 1988.
3. Recent developments in estimation for heteroscedastic regression models. Departments of Economics, Finance, and Applied Legal Studies, Mathematics, and Agricultural Economics, Mississippi State University, April 1988.
4. Variance function estimation in heteroscedastic regression, with application to the analysis of assay data. Pre-Clinical Statistics Group, Lederle Laboratories, Pearl River, New York, April 1988.
5. Variance function estimation and transformations in regression: an overview. Invited paper, Southeast Regional Conference of Statisticians in the Health Care Industry, Glaxo, Inc., Research Triangle Park, North Carolina, November 1988.

6. An introduction to regression methods for censored normal data. Department of Statistics, North Carolina State University, September 1989.
7. Issues in regression analysis. Burroughs Wellcome Co., Research Triangle Park, North Carolina, December 1989.
8. Estimation of intraindividual variability in pharmacokinetic and assay data analysis. North Carolina Chapter of the American Statistical Association, March 1990.
9. Estimation of intraindividual variability in nonlinear random effects models. Department of Biostatistics, University of North Carolina at Chapel Hill, January 1991.
10. Estimation of intraindividual variability in nonlinear random effects models. Department of Mathematics, University of North Carolina at Charlotte, January 1991.
11. Estimation of intraindividual variability in nonlinear random effects models. Department of Mathematics, University of Virginia, January 1991.
12. Estimation of intraindividual variability in nonlinear random effects models. Department of Statistics, North Carolina State University, January 1991.
13. Variance function estimation in nonlinear regression, with application to calibration. Genentech, Inc., South San Francisco, California, March 1991.
14. The use of regression analysis in nonwovens research. Invited paper, TAPPI Nonwovens Conference, Marco Island, Florida, May 1991.
15. Issues in estimation for nonlinear mixed effects models (with application to population pharmacokinetic modeling). Midwest Biopharmaceutical Statistics Workshop, Muncie, Indiana, May 1991.
16. Some general methods for estimation in nonlinear mixed effects models. Invited paper, Joint Statistical Meetings, August 1991.
17. Estimation in pharmacokinetic data analysis – an overview. Glaxo, Inc., Research Triangle Park, North Carolina, September 1991.
18. The nonlinear mixed effects model with a smooth random effects density. Genentech, Inc., South San Francisco, California, December 1991.
19. The nonlinear mixed effects model with a smooth random effects density. Department of Biostatistics, University of California, San Francisco. December 1991.
20. The nonlinear mixed effects model with a smooth random effects density. Department of Statistics, North Carolina State University, January 1992.
21. The nonlinear mixed effects model with a smooth random effects density. Division of Biometry and Medical Informatics, Duke University Medical Center, Durham, North Carolina, January 1992.
22. The nonlinear mixed effects model with a smooth random effects density. Eli Lilly and Co., Indianapolis, Indiana, May 1992.
23. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Invited paper, Joint Statistical Meetings, August, 1992.

24. The nonlinear mixed effects model with a smooth random effects density. CIBA-GEIGY, Summit, New Jersey, August 1992.
25. The nonlinear mixed effects model with a smooth random effects density. Department of Biostatistics, University of North Carolina at Chapel Hill, September 1992.
26. The nonlinear mixed effects model with a smooth random effects density. Department of Biostatistics, University of Michigan, Ann Arbor, October 1992.
27. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Pharmacokinetics and Pharmacodynamics Section, St. Jude Children's Research Hospital, Memphis, Tennessee, December 1992.
28. Alternative approaches to estimation in population pharmacokinetics. Invited paper, Centennial International Industrial Pharmacy Conference, College of Pharmacy, University of Texas at Austin, February 1993.
29. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Department of Mathematics, University of Virginia, February, 1993.
30. The nonlinear mixed effects model with a smooth random effects density. Department of Biostatistics, Harvard School of Public Health, March 1993.
31. Alternative approaches to estimation in population pharmacokinetics. Invited paper, 94th Annual Meeting of the American Society of Clinical Pharmacology and Therapeutics, Honolulu, Hawaii, March 1993.
32. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Department of Statistics, University of Chicago, April 1993.
33. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Department of Biostatistics, University of California, Berkeley, May 1993.
34. Smooth nonparametric maximum likelihood estimation in population pharmacokinetics. Biostatistics, Limburgs Universitair Centrum, Belgium, June 1993.
35. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Glaxo, Inc., Research Triangle Park, North Carolina, June 1993.
36. Smooth nonparametric maximum likelihood estimation for population pharmacokinetics. Invited paper, Population PK/PD Symposium, 1993 American Association of Pharmaceutical Scientists Annual Meeting, Orlando, Florida, November 1993.
37. The hierarchical nonlinear model in population pharmacokinetic analysis – an overview. Invited paper, International Society for Clinical Biostatistics 15th Meeting, Basel, Switzerland, July 1994.
38. A simple method for handling time-dependent covariates in the nonlinear mixed effects model, with application to pharmacokinetics. Invited paper, Joint Statistical Meetings, August, 1994.
39. The hierarchical nonlinear model in population pharmacokinetic analysis – an overview. Schering-Plough Research Institute, Kenilworth, New Jersey, November 1994.
40. Phase I issues in the statistical literature. Pediatric AIDS Clinical Trials Group Leadership Retreat, Washington, DC, December 1994.

41. Statistical issues in assay development and analysis. Center for Biologics Evaluation and Research, U.S. Food and Drug Administration, Rockville, Maryland, February 1995.
42. Application of semiparametric methods to analysis of the simulated quinidine data. Invited paper, Joint Statistical Meetings, August, 1995.
43. Bootstrap confidence intervals for immunoassay. Biomathematics Department, M.D. Anderson Cancer Center, Houston, Texas, April 1996.
44. Bootstrap confidence intervals for immunoassay. Department of Statistics, Texas A & M University, April 1996.
45. Nonlinear models for repeated measurements—an overview. North Carolina Chapter of the American Statistical Association, December 1996.
46. Nonlinear models for repeated measurements—an overview. SAS Institute, Cary, North Carolina, February 1997.
47. The effects of covariate measurement error in nonlinear mixed effects models. Invited paper, ENAR Spring Meeting, March 1997.
48. Bootstrap confidence intervals for immunoassay. Fred Hutchison Cancer Center, University of Washington, Seattle, May 1997.
49. Invited discussant, 4th Workshop on Bayesian Case Studies, Carnegie-Mellon University, Pittsburgh, September 1997.
50. Bootstrap confidence intervals for immunoassay. Department of Statistics, University of Iowa, October 1997.
51. Covariate measurement error in nonlinear mixed effects models: An overview. Invited paper, Statistics for correlated data: A conference marking the 50th anniversary of the Department of Statistics at Iowa State University. Ames, Iowa, October 1997.
52. Bootstrap confidence intervals for immunoassay. Department of Biostatistics, University of Michigan, Ann Arbor. November 1997.
53. Relaxing the normality assumption on the random effects in nonlinear mixed effects models. Frontier Science and Technology Research Foundation, Chestnut Hill, Massachusetts. December 1997.
54. Covariate measurement error in nonlinear mixed effects models: Two practical problems and practical solutions. Texas A&M University, April 1998.
55. A statistician's view of the draft population pharmacokinetics guidance. Public Discussion on FDA guidances on population PK/PD modeling, Center for Drug Development Science, Georgetown University, April 1998.
56. Analysis of HIV dynamic data using hierarchical nonlinear models. Theoretical Biology and Biophysics Group, Los Alamos National Laboratory, Los Alamos, New Mexico, July 1998.
57. Population and individual bioequivalence: A view from the Pharmaceutical Science Advisory committee. Invited paper, Joint Statistical Meetings, Dallas, Texas, August 1998.
58. Bootstrap confidence intervals for immunoassay. Department of Biostatistics, University of North Carolina at Chapel Hill, September 1998.

59. Modeling of the pathogenesis of HIV and HCV and the selection of surrogate endpoints. Invited presentation (with A.S. Perelson), Research Needs for the Design and Analysis of Surrogate Endpoints in Clinical Trials, Workshop sponsored by Office of Science Policy, National Institutes of Health, Potomac, Maryland, December, 1998.
60. Nonlinear models for repeated measurements – A review. New Jersey Chapter of the American Statistical Association, February, 1999.
61. Statistical methods for pharmacokinetic analysis. Biometrics Unit, Cornell University, May, 1999.
62. Nonlinear models for repeated measurements - A review. Invited talk, Gertrude M. Cox Statistics Conference, September, 1999.
63. Statistical modeling of pharmacokinetics (and pharmacodynamics) - an overview. Invited talk, Biostatistics retreat, Robert Wood Johnson Pharmaceutical Research Institute, November, 1999.
64. A semiparametric estimator for the proportional hazards model with longitudinal covariates measured with error. Institute of Statistics and Decision Sciences, Duke University, March, 2000.
65. A semiparametric estimator for the proportional hazards model with longitudinal covariates measured with error. Invited paper, Joint Statistical Meetings, Indianapolis, Indiana, August 2000.
66. A semiparametric estimator for the proportional hazards model with longitudinal covariates measured with error. Department of Biostatistics, University of Rochester, Rochester, New York, April 2001.
67. A semiparametric estimator for the proportional hazards model with longitudinal covariates measured with error. Department of Biostatistics, University of North Carolina at Chapel Hill, September 2001.
68. An introduction to causal inference. Department of Biostatistics and Bioinformatics, Duke University, November 2001.
69. Adjustment for confounding in observational studies – causal inference perspective. Department of Biostatistics and Bioinformatics, Duke University, January 2002.
70. A semiparametric likelihood approach for linear mixed, generalized linear mixed, and joint longitudinal-survival models with flexible random effects distribution. International Conference on Current Advances and Trends in Nonparametric Statistics, Crete, Greece, July 2002.
71. “Semiparametric” approaches for inference in joint models for longitudinal and time-to-event data. Department of Statistics, University of Florida, November 2002.
72. As time goes by: An introduction to methods for analysis of longitudinal data. Challis Distinguished Lecture, Department of Statistics, University of Florida, November 2002.
73. “Semiparametric” approaches for inference in joint models for longitudinal and time-to-event data. 18th International Workshop on Statistical Modelling, Leuven, Belgium, July 2003.
74. Introductory Overview Lecture on Longitudinal Data Analysis, Institute of Mathematical Statistics, Joint Statistical Meetings, San Francisco, California, August 2003.

75. What's in between dose and response? Pharmacokinetics, pharmacodynamics, and statistics. Myrto Lefkopoulou Distinguished Lecture, Department of Biostatistics, Harvard School of Public Health, September 2003.
76. Joint modeling of longitudinal and primary endpoint data. Department of Psychology, University of North Carolina at Chapel Hill, December 2003.
77. What's in between dose and response? Pharmacokinetics, pharmacodynamics, and statistics. Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health, March 2004.
78. Nonlinear mixed effects models: An overview and update. *JABES* Editor's Invited Session, International Biometric Conference, Cairns, Australia, July 2004.
79. Introduction to nonlinear mixed effects models. Statistics Conference, GlaxoSmithKline, Research Triangle Park, North Carolina, October 2004.
80. What's in between dose and response? Pharmacokinetics, pharmacodynamics, and statistics. Departments of Statistics and Biostatistics, University of Michigan, October 2004.
81. Semiparametric estimation of treatment effect in a pretest-posttest study. Seventh Annual Winter Workshop (Longitudinal Data Analysis), Department of Statistics, University of Florida, January 2005.
82. Semiparametric estimation of treatment effect in a pretest-posttest study. Department of Biostatistics and Bioinformatics, Duke University Medical Center, January 2005.
83. Semiparametric estimation of treatment effect in a pretest-posttest study. National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, September 2005.
84. Adaptive treatment strategies in cancer research. Symposium on Causal Inference, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, January 2006.
85. Introduction to modeling and analysis of longitudinal data. Introductory Lecture, ENAR Spring Meeting, Tampa, Florida, March 2006.
86. What's in between dose and response? Pharmacokinetics, pharmacodynamics, and statistics. Bernard Greenberg Lecture, Department of Biostatistics, University of North Carolina at Chapel Hill, May 2006.
87. Semiparametric estimation of treatment effect in a pretest-posttest study. Bernard Greenberg Lecture, Department of Biostatistics, University of North Carolina at Chapel Hill, May 2006.
88. Inference for dynamic treatment regimes for two-stage clinical trials (and more generally). Bernard Greenberg Lecture, Department of Biostatistics, University of North Carolina at Chapel Hill, May 2006.
89. Some new methods for latent variable models and survival analysis. Bernard Greenberg Lecture, Department of Biostatistics, University of North Carolina at Chapel Hill, May 2006.
90. Invited discussion of papers on "Handling Covariates Measured with Error," International Biometric Conference, Montreal, Canada, July 2006.
91. Inference for dynamic treatment regimes for two-stage clinical trials (and more generally). Institute of Statistics and Decision Sciences, Duke University, September, 2006.

92. Statistical population modeling and analysis of PK data: An introduction. International Workshop on Uncertainty and Variability in Physiologically Based Pharmacokinetic (PBPK) Models, US Environmental Protection Agency, Research Triangle Park, North Carolina, November 2006.
93. Inference for dynamic treatment regimes for two-stage (cancer) clinical trials. Department of Biostatistics and Bioinformatics, Duke University, November 2006.
94. An introduction to dynamic treatment regimes. Invited paper, ENAR Spring Meeting, Atlanta, Georgia, March 2007.
95. Improving efficiency of inferences in randomized clinical trials using auxiliary covariates. Statistics Group, RAND, Pittsburgh, Pennsylvania, May 2007.
96. The role of statistical principles in biomedical modeling. Plenary lecture, Atlantic Coast Conference on Mathematics in the Life and Biological Sciences, Virginia Tech, Blacksburg, Virginia, May 2007.
97. An introduction to dynamic treatment regimes. Invited paper, International Society for Clinical Biostatistics 28th Annual Conference, Alexandroupolis, Greece, August 2007.

Shortcourses and Workshops

1. Biostatistical applications of nonlinear mixed effects modeling (with D. Giltinan; 1 day short-course). Joint Statistical Meetings, Orlando, Florida, August 1995.
2. An introduction to nonlinear mixed effects modeling (1 day shortcourse). Wyeth-Ayerst Research, Pearl River, New York, November 1995.
3. Extending the linear mixed effects model (with D. Giltinan; 2 day shortcourse). WNAR, Pullman, Washington, June 1996.
4. An introduction to nonlinear mixed effects modeling (1 day shortcourse). Procter and Gamble, Cincinnati, Ohio, October 1996.
5. Nonlinear mixed models for repeated measurement data (with D. Giltinan and E. Vonesh; 3 day shortcourse). Biopharmaceutical Applied Statistics Symposium. San Diego, California, December 1996.
6. Nonlinear mixed models for repeated measurement data (2 1/2 day shortcourse). University of South Florida, Tampa, March 1997.
7. An introduction to mixed effects models (2 day shortcourse). Duke University Medical Center, Durham, North Carolina, May 1998.
8. Statistics for Geneticists II (3 day shortcourse) as part of the Summer Institute in Statistical Genetics, North Carolina State University, Raleigh, North Carolina, June 1997–2000.
9. Statistical Modeling of Pharmacokinetics – An Overview (1 day short course). Sanofi-Synthelabo Research, Malvern, Pennsylvania, August 2000.