

Sharon L. Lohr

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Academic Background

Ph.D. Statistics, 1987, University of Wisconsin-Madison. Minor: Mathematics.

Advisor: Mark Finster

B.S. Mathematics, 1982, Calvin College, Grand Rapids, Michigan. Minor: Computer Science.

Professional Experience

2004–present	Dean’s Distinguished Professor of Statistics, School of Mathematical and Statistical Sciences, Arizona State University
1999–present	Affiliated faculty, ASU Center for Law, Science, and Innovation
2003–present	Research Member, Laboratory for Statistics and Probability, Carleton University
2000–2004	Professor, Department of Mathematics and Statistics, Arizona State University
1994–2000	Associate Professor, Department of Mathematics, Arizona State University
1998, spring	Visiting Scholar, Arizona State University College of Law
1996, fall	Visiting Scholar, Laboratory for Statistics and Probability, Carleton University
1994, summer	Visiting Professor, Department of Statistics, Stanford University
1990–1994	Assistant Professor, Department of Mathematics, Arizona State University
1987–1990	Assistant Professor, School of Statistics, University of Minnesota
1987	Lecturer, Department of Statistics, University of Wisconsin-Madison
1987	Biostatistician, University of Wisconsin Clinical Cancer Center
1983–1986	Teaching and Research Assistant, University of Wisconsin-Madison
1985	Statistical Consultant, University of Wisconsin-Madison Center for Health Systems Research and Analysis
1982	Computer Programmer, NASA Goddard Space Flight Center, Greenbelt MD

Fellowships and Awards

Selected to present the Morris H. Hansen Memorial Lecture, Washington Statistical Society, Washington, D.C., October 2009

Elected Member, International Statistical Institute, 2004

Gertrude M. Cox Statistics Award (inaugural recipient), 2003. Citation: For “significant contributions to statistical practice.”

Fellow, American Statistical Association (elected 2000). Citation: “For development of methodology, innovative teaching methods, and materials for survey sampling; and for statistical consulting and applications in criminology and law.”

ASU College of Liberal Arts & Sciences Interdisciplinary Fellowship, Spring 1998

Rinck Memorial Mathematics Award, Calvin College, 1982

Recent Grant Support

- Westat: “Methodological Research to Support the Redesign of the National Crime Victimization Survey: Sub-National Estimates,” 2010–2014 (PI, subcontractor to Westat on proposal to Bureau of Justice Statistics).
- National Science Foundation: “REESE Empirical Research on Emerging Topics in STEM Education: Statistical Methods for Assessing Teaching and Program Effectiveness,” 2009-2012 (Sharon Lohr, PI with Yan Yang, co-PI).
- Westat: “Methodological Research to Support the Redesign of the National Crime Victimization Survey,” 2009 (PI, subcontractor to Westat on proposal to Bureau of Justice Statistics).
- National Science Foundation: “SCREMS: An Interdepartmental Computing Environment for Statistical Research,” 2007-2008. Renate Mittelmann, PI; Sharon Lohr, Doug Montgomery, Roger Berger, and Randy Eubank, co-PIs.
- National Science Foundation: “Spatial and Small Area Estimation Problems with Application to Large-Scale Surveys,” 2006-2009 (Sharon Lohr, PI with Ananda Majumdar, co-PI).
- National Science Foundation: “Project Pathways: Opening Routes to Math & Science Success for All Students,” 2004-2006 (Senior investigator; Marilyn Carlson, PI).
- National Science Foundation: “Developing a Professional Learning Community Model for Secondary Precalculus Teachers: A Model for Teacher Professional Growth,” 2004-2006 (Senior Investigator; Marilyn Carlson, PI).
- National Science Foundation: “Small Area and Longitudinal Estimation using Information from Multiple Surveys,” 2001-2005 (PI).
- National Science Foundation: “Scientific Computing Research Environments for the Mathematical Sciences (SCREMS),” 1999-2001. Rosemary Renaut, PI; Frank Hoppensteadt, Eric Kostelich, Sharon Lohr, James Turner, co-PIs.
- Bureau of Justice Statistics: “Longitudinal Analyses using the National Crime Victimization Survey,” 1999-2001 (PI).
- ASU College of Liberal Arts & Sciences Quality of Instruction Award, 1999-2000. Sharon Lohr and William T. Trotter, co-PI’s.
- National Institute of Justice: “Victimization, Reporting Crime, and Police Response,” 1997-98 (PI).
- National Science Foundation: “Experiment Design for Variance Functions,” 1993-94 (PI).

PUBLICATIONS

Books

- 2010 Lohr, S. *Sampling: Design and Analysis, 2nd ed.* Boston: Brooks/Cole, 596 pages.
- 2010 Lohr, S. *Solutions Manual for Sampling: Design and Analysis, 2nd ed.* Boston: Brooks/Cole, 258 pages [online].
- 2010 Lohr, S. *Computer Programs for Sampling: Design and Analysis, 2nd ed.* Boston: Brooks/Cole [online].
- 1999 Lohr, S. *Sampling: Design and Analysis.* Pacific Grove, CA: Duxbury Press, 494 pages. Also translated into Spanish as *Muestreo: Diseño y Análisis*, 2000.
- 1999 Lohr, S. *Instructor’s Manual to Sampling: Design and Analysis.* Pacific Grove, CA: Duxbury Press, 135 pages.

Refereed Publications and Law Review Articles

- 2011 Hamada, M., Lohr, S., Hamada, C.A., and Burr, T. “Estimating a proportion from repeated sampling of a growing population: An application of survey sampling methodology,” accepted by *Quality Engineering*.
- 2011 Broatch, J. and Lohr, S. “Multidimensional assessment of value added by teachers to real-world responses,” accepted by *Journal of Educational and Behavioral Statistics*.
- 2011 Lohr, S. “Alternative survey sample designs: Sampling with multiple overlapping frames,” accepted by *Survey Methodology*.
- 2011 Mendez, G. and Lohr, S. “Estimating residual variance in random forest regression,” *Computational Statistics and Data Analysis*, 55, 2937–2950.
- 2010 Lohr, S. “The 2009 Morris Hansen Lecture: The care, feeding, and training of survey statisticians,” *Journal of Official Statistics*, 26, 395–409. Invited paper with discussion.
- 2010 Lu, Y. and Lohr, S. “Gross flow estimation in dual frame surveys,” *Survey Methodology*, 36, 13–22.
- 2009 Jenney, B. and Lohr, S. “Experimental designs for multiple-level responses, with application to a large-scale educational intervention,” *Annals of Applied Statistics*, 3, 691–709.
- 2009 Lohr, S. and Rao, J.N.K. “Jackknife estimation of mean squared error of small area predictors in nonlinear mixed models,” *Biometrika*, 96, 457–468.
- 2009 Lohr, S. “Multiple frame surveys,” *Handbook of Statistics, Vol. 29A, Sample Surveys: Design, Methods and Applications*, ed. D. Pfeffermann and C. R. Rao. Amsterdam: North Holland, 71–88.
- 2009 Lohr, S. “Sampling and survey design,” *Handbook of Statistics, Vol. 29A, Sample Surveys: Design, Methods and Applications*, ed. D. Pfeffermann and C. R. Rao. Amsterdam: North Holland, 3–8.
- 2008 Ybarra, L.M.R. and Lohr, S. “Small area estimation when auxiliary information is measured with error,” *Biometrika*, 95, 919–931.
- 2008 Lohr, S. “Coverage and sampling,” chapter 6 of *International Handbook of Survey Methodology*, ed. E. deLeeuw, J. Hox, D. Dillman. New York: Erlbaum, 97–112.
- 2008 Mendez, G., Buskirk, T., Lohr, S., and Haag, S. “Factors associated with persistence in science and engineering majors: An exploratory study using random forests,” *Journal of Engineering Education*, 97, 57–70.
- 2007 Alf, C. and Lohr, S. “Sampling assumptions in introductory statistics classes,” *The American Statistician*, 61, 71–77.
- 2007 Lohr, S. “Comment: Struggles with survey weighting and regression modeling,” *Statistical Science*, 22, 175–178.
- 2006 Prewitt, K. and Lohr, S. “Bandwidth selection in local polynomial regression using eigenvalues,” *Journal of the Royal Statistical Society, Series B*, 68, 135–154.

- 2006 Lohr, S. and Rao, J.N.K. "Estimation in multiple-frame surveys." *Journal of the American Statistical Association*, 101, 1019–1030.
- 2005 Buskirk, T. and Lohr, S. "Asymptotic properties of kernel density estimation with complex survey data," *Journal of Statistical Planning and Inference*, 128, 165–190.
- 2005 Dueck, A. and Lohr, S. "Robust estimation of multivariate covariance components," *Biometrics*, 61, 162-169.
- 2005 Sylvester, D. and Lohr, S. "The security of our secrets: A history of privacy and confidentiality in law and statistical practice," *Denver University Law Review*, 83, 147–209.
- 2005 Sylvester, D. and Lohr, S. "Counting on confidentiality: Legal and statistical approaches to federal privacy law after the USA PATRIOT act," *Wisconsin Law Review*, 1036–1138.
- 2004 Lohr, S. "Statistical frontiers in survey sampling," *The American Statistician*, 58, 145–149.
- 2003 Lohr, S. "Sample surveys," in *Modern Biometry*, ed. by Susan R. Wilson and Lynne Billard, in *Encyclopedia of Life Support Systems*, developed under the auspices of the UNESCO, Eolss Publishers, Oxford UK [www.eolss.net].
- 2003 Lohr, S. and Prasad, N.G.N. "Small area estimation using auxiliary survey data," *Canadian Journal of Statistics*, 31, 383–396.
- 2002 Ybarra, L.M.R. and Lohr, S. "Estimates of repeat victimization using the National Crime Victimization Survey," *Journal of Quantitative Criminology*, 18, 1–21.
- 2002 Lohr, S. "Estimation using multiple surveys," *Proceedings of the 53rd Session of the International Statistical Institute, International Association of Survey Statisticians*, ed. D. Binder and E. Rancourt, 336–349.
- 2001 Lohr, S. "Sample surveys: Model based approaches," *International Encyclopedia of the Social and Behavioral Sciences*, ed. N.J. Smelser and P.B. Baltes. Elsevier Science Publishers, 20, 13462–7.
- 2000 Lohr, S. and Rao, J.N.K. "Inference in dual frame surveys," *Journal of the American Statistical Association*, 95, 271–280.
- 2000 Bush, J.E., Humphreys, J.T., Allen, D. and Lohr, S. "Relationships between school music ensemble participation and academic achievement in the USA," translated to the Greek by Lelouda Stamos, with an English abstract, *Music Education (Special Edition: Proceedings of the Greek Society for Music Education)*, 2, 147–154.
- 1999 Lohr, S. "Hasse diagrams," in *Encyclopedia of Statistical Sciences, Update Volume 3*, ed. S. Kotz. New York: Wiley, 297–301.
- 1998 Ellman, I.M. and Lohr, S. "The dissolution of divorce laws and divorce rates," *International Review of Law and Economics*, 18, 341–359.
- 1997 Lohr, S. and Divan, M. "Comparison of confidence intervals for variance components with unbalanced data," *Journal of Statistical Computation and Simulation*, 58, 83–97.
- 1997 Ellman, I.M. and Lohr, S. "Marriage as contract, opportunistic violence, and other bad arguments for fault divorce," *University of Illinois Law Review*, 719–772.

- 1996 Fecso, R., Kalsbeek, W., Lohr, S., Scheaffer, R., Scheuren, F., and Stasny, E. "Teaching survey sampling," *The American Statistician*, 50, 328–340.
- 1995 Lohr, S. "Optimal Bayesian design of experiments for the one-way random effects model," *Biometrika*, 82, 175–186.
- 1995 Lohr, S. "Hasse diagrams in statistical consulting and teaching," *The American Statistician*, 49, 376–381.
- 1994 Conaway, M. and Lohr, S. "A longitudinal analysis of factors associated with reporting violent crimes to the police," *Journal of Quantitative Criminology*, 10, 23–39.
- 1994 Lohr, S. and Liu, J. "A comparison of weighted and unweighted analyses in the NCVS," *Journal of Quantitative Criminology*, 10, 343–360.
- 1994 Peart, D., Patten, D. and Lohr, S. "Feral pig disturbance and woody species seedling regeneration and abundance beneath coast live oaks (*Quercus agrifolia*) on Santa Cruz Island, California." In *The Fourth California Islands Symposium: Update on the Status of Resources*, ed. W.L. Halvorson and G.J. Maender, 313–322.
- 1994 Lohr, S. Invited discussion of "Statistical values, quality and certification" by P. Imrey. *The American Statistician*, 48, 76–77.
- 1993 Lohr, S. "Three-stage accurate estimation in the general linear model," *Journal of Statistical Planning and Inference*, 34, 317–331.
- 1993 Lohr, S. "Two-stage accurate estimation in the general linear model," *Sequential Analysis*, 12, 1–23.
- 1993 Lohr, S. "Multivariate normal probabilities of star-shaped regions," *Applied Statistics*, 42, 576–582.
- 1992 Chang, T., Lohr, S., and McLaren, G. "Teaching survey sampling using simulation," *The American Statistician*, 46, 232–237.
- 1992 Gazzuolo, E., DeLong, M., Lohr, S., LaBat, K., and Bye, E. "Predicting garment pattern dimensions from photographic and anthropometric data," *Applied Ergonomics*, 23, 161–171.
- 1992 Beehler, J., Lohr, S., and Defoliart, G. "Factors influencing oviposition in *Aedes triseriatus*," *The Great Lakes Entomologist*, 25, 259–264.
- 1990 Lohr, S. "Accurate multivariate estimation using triple sampling," *The Annals of Statistics*, 18, 1615–1633.

Other Publications

- 2011 Karl, A., Yang, Y., and Lohr, S. "Exploring missing data in value-added models in education," *Proceedings of the Social Statistics Section, American Statistical Association*, to appear.
- 2010 Lohr, S. "Dual frame surveys: Recent developments and challenges," *Proceedings of the 45th meeting of the Italian Statistical Society*, 12 pages.
- 2007 Lohr, S. "Recent developments in multiple frame surveys," *Proceedings of the Survey Research Methods Section, American Statistical Association*, 3257–3264.

- 2007 Lohr, S. "Discussion of papers on resampling methods in small area estimation," *Proceedings of the Survey Research Methods Section, American Statistical Association*, 3265–3267.
- 2007 Jenney, B. and Lohr, S. "Choice of randomized design in large-scale education experiments," *Proceedings of the Social Statistics Section, American Statistical Association*, 3638–3645.
- 2004 Lohr, S. and Rao, J.N.K. "Resampling methods for MSE estimation with nonlinear small area models," *Proceedings of Statistics Canada Symposium 2003: Challenges in Survey Taking for the Next Decade*, on CD, 9 pages.
- 2004 Lohr, S. "Small area and longitudinal estimation using information from multiple surveys," *Proceedings of the Seminar on Funding Opportunity in Survey and Statistical Research, Statistical Policy Working Paper 36*, Federal Committee on Statistical Methodology, Statistical Policy Office, Office of Management and Budget, 77–94.
- 2003 Lohr, S. and Rao, J.N.K. "Estimation in multiple frame surveys," *Proceedings of the International Conference on Recent Advances in Survey Sampling*, 137–146.
- 2003 Lohr, S. and Ybarra, L.M.R. "Area-level models using data from multiple surveys," *Proceedings of Statistics Canada Symposium 2002: Modelling Survey Data for Social and Economic Research*. (On CD, 7 pages).
- 2003 Lohr, S. "Privacy and survey research: Ethical and legal questions from a researcher's perspective," *Bulletin of the International Statistical Institute, Proceedings of the 54th Session*. (On CD, 4 pages).
- 2002 Dueck, A. and Lohr, S. "Robust estimation of multivariate covariance components," *Proceedings of the Statistical Computing Section, American Statistical Association*, 845-850.
- 2001 Lohr, S. "Estimation using multiple surveys," *Bulletin of the International Statistical Institute, Proceedings of the 53rd Session*, Vol. 2, 367-370.
- 2000 Lohr, S. and Buskirk, T. "Density estimation with complex survey data," *1999 Proceedings of the Survey Methods Section, Statistical Society of Canada*, 27-32.
- 2000 Ybarra, L.M.R. and Lohr, S. "Effects of attrition in the National Crime Victimization Survey," *Proceedings of the Survey Research Methods Section, American Statistical Association*, 870-874.
- 2000 Lohr, S. "Careers in Survey Research," *Amstat Online*, www.amstat.org/sections/srms/careers.html
- 1998 Peart, D., Lohr, S., and Patten, D. "The effect of feral pig activity on woody seedling survival on Santa Cruz Island, California," Technical Report, ASU Center for Environmental Studies.
- 1998 Prewitt, K. and Lohr, S. "Condition indices and bandwidth selection in nonparametric curve estimation." *Proceedings of the Statistical Computing Section, American Statistical Association*, 159-161.
- 1998 Lohr, S. and Sun, S. "Probability of victimization over time: Results from the U.S. National Crime Victimization Survey," *Proceedings of Statistics Canada Symposium 98, Longitudinal Analysis for Complex Surveys*, 163-168.

- 1997 Lohr, S. and Rao, J.N.K. "Jackknife variance estimation in multiple frame surveys," *Proceedings of the Survey Research Section, American Statistical Association*, 552-557.
- 1993 Lohr, S. and Liu, J. "The role of weights in multivariate analyses of the NCVS," *Proceedings of the Survey Research Section, American Statistical Association*, 781-785.
- 1993 Lohr, S. and Conaway, M. "National Crime Surveys Longitudinal File, 1988-1989: [Selected Variables] [computer file]." Tempe, AZ: Sharon L. Lohr [producer]. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]. Also on "Longitudinal Data on Crime" (1999, ICPSR 2599); www.icpsr.umich.edu/NACJD/cd0030.html

Book Reviews

- 1996 Lohr, S. Book review of *Interpreting Crime Statistics*, ed. M. A. Walker. *Journal of the American Statistical Association*, 91, 1374-75.
- 1994 Lohr, S. Book review of *Statistics, 2nd ed.* by D. Freedman, R. Pisani, R. Purves, and A. Adhikari. *Technometrics*, 36, 119-120.
- 1989 Lohr, S. Book review of *Elements of Statistical Computing* by R. A. Thisted. *Journal of the American Statistical Association*, 84, 613-14.

PRESENTATIONS

Workshops Presented

- "Sample Survey Methods: Recent Developments and Applications," one-day workshop presented for the Washington Statistical Society, April 2005.
- "Sample Survey Methods: Recent Developments and Applications," two-day workshop presented at the Joint Statistical Meetings, Toronto, August 2004 (with J.N.K. Rao).
- "The Design and Analysis of Sample Surveys" full-day workshop presented at the Joint Statistical Meetings, New York, August 2002.
- "Sampling: Design and Analysis," full-day workshop presented at the Statistical Society of Canada Annual Meeting, Ottawa ON, June 2000.
- "Modern Regression via Smoothing Methods," half-day workshop presented for ASU Statistics Week and the Arizona Chapter of the American Statistical Association, Tempe AZ, March 1994 (with D. Young).
- "Statistical Methods for Survival Data Analysis," half-day workshop presented for ASU Statistics Week and the Arizona Chapter of the American Statistical Association, Tempe AZ, March 1993 (with J. Wilson).

Invited Talks at Conferences

- "Blending estimates from surveys with possible bias," Foundations and Frontiers: A Conference Celebrating the Contributions of Mary Thompson to the Statistical Sciences, Waterloo ON, October 2011.
- "The value Deming's ideas can add to educational evaluation," Joint Statistical Meetings, Miami Beach, August 2011.
- "Dual frame surveys: Recent developments and challenges," 45th meeting of the Italian Statistical Society (SIS), Padua Italy, June 2010.
- "The care, feeding, and training of survey statisticians," Morris Hansen Lecture, Washington DC, October 2009.

- “Nonparametric regression estimators in survey sampling,” Joint Statistical Meetings, Washington DC, August 2009 (with G. Mendez).
- “Small area estimation using data from multiple sources,” plenary lecture, SAE2009 Conference on Small Area Estimation, Elche, Spain, June 2009.
- “Recent developments in multiple frame surveys,” Joint Statistical Meetings, Salt Lake City, August 2007.
- “Resampling methods in small area estimation,” invited discussion, Joint Statistical Meetings, Salt Lake City, July 2007.
- “Survey sampling, theory and applications,” Featured speaker at Vinterkonferens 2007, presented seven 1-hour talks, Borgafjäll Sweden, March 2007: “Survey design and weights,” “Variance estimation methods,” “Variance estimation in applications,” “Graphing data from complex surveys,” “Small area estimation methods,” “Recent developments in small area estimation,” “Multiple frame surveys.”
- “Bootstrap variance estimation for multiple frame surveys,” Statistical Society of Canada Annual Meeting, Saskatoon SK, June 2005 (with J.N.K. Rao).
- “Statistical issues for the American Community Survey,” Association of Public Data Users annual meeting, Alexandria VA, October 2004.
- “Resampling methods for MSE estimation with nonlinear small area models,” at the Statistics Canada Symposium on Challenges in Survey Taking in the Next Decade, Ottawa ON Canada, October 2003 (with J.N.K. Rao).
- “Privacy and survey research: Ethical and legal questions from a researcher’s perspective,” at the 54th Session of the International Statistical Institute, Berlin Germany, August 2003.
- “Borrowing strength from other surveys and incomplete administrative data,” at the Joint Statistical Meetings, San Francisco, August 2003.
- “Small area and longitudinal estimation using information from multiple surveys,” at the Second Seminar on the Funding Opportunity in Survey Research, Washington D.C., June 2003.
- “Sampling frontiers,” keynote address at the annual meeting of the Washington Statistical Society, June 2003.
- “Area-level models using data from multiple surveys,” at the Statistics Canada Symposium on Modelling Survey Data For Social and Economic Research, Ottawa Canada, November 2002 (with L. Ybarra).
- “Estimation problems in multiple frame surveys,” at the International Conference on Recent Advances in Survey Sampling, Ottawa Canada, July 2002.
- “Estimation using multiple surveys,” at the 53rd Session of the International Statistical Institute, Seoul Korea, August 2001.
- “Small area estimation using multiple surveys,” at the Statistical Society of Canada Annual Meeting, Vancouver, June 2001 (with N.G.N. Prasad, presenter).
- “Small area estimation using multiple surveys,” at the Conference in Celebration of Wayne Fuller’s 70th Birthday, Ames IA, June 2001.
- “National levels of school music ensemble participation and relationships with academic achievement,” at the Second Biennial Conference of the Greek Society for Music Education. Thessaloniki, Greece. July 2000 (with Jeffrey Bush, presenter; Jere Humphreys; Douglas Allen).
- “Optimal design for variance components and design implementation,” at the Symposium on Selected Topics in Variance Components Analysis, Gainesville FL, January 2000.
- “Prevalence of crime in the United States: A longitudinal analysis incorporating partial information,” at the Joint Statistical Meetings, Baltimore, August 1999.
- “Density estimation from survey data,” at the Statistical Society of Canada Annual Meeting, Regina, SK, June 1999 (with T. Buskirk).

- “Probability of victimization over time: Results from the U.S. National Crime Victimization Survey,” at Statistics Canada Symposium 98, Longitudinal Analysis for Complex Surveys, Ottawa, ON, May 1998.
- “Interval estimation in dual frame surveys,” at the Conference on Current Topics in Survey Research, Lincoln, NE, October 1997 (with J.N.K. Rao).
- “Teaching survey sampling,” invited talk and panel discussion at the Joint Statistical Meetings, Orlando, August 1995.
- “Longitudinal data analysis in the NCVS,” at the ICPSR Summer Program on Quantitative Analysis of Crime and Criminal Justice, Ann Arbor, July 1995.
- “If you’re a crime victim, then you should be a statistic,” Arizona Chapter, American Statistical Association, January 1995.
- “A comparison of weighted and unweighted analyses in the NCVS,” at the American Society of Criminology, New Orleans, November 1992.
- “Some issues in longitudinal analysis of the NCVS,” at the American Society of Criminology, New Orleans, November 1992 (with M. Conaway, presenter).
- “Accurate estimation in the general linear model,” at the Institute of Mathematical Statistics meeting, Cincinnati, March 1992.

Contributed Papers

- “Goodness of fit tests in dual-frame surveys,” Joint Statistical Meetings, Miami Beach, August 2011 (with Y. Lu, presenter).
- “Exploring missing data in value-added assessment models in education,” Joint Statistical Meetings, Miami Beach, August 2011 (with A. Karl, presenter and Y. Yang).
- “Value-added assessment models with continuous and categorical responses,” topic contributed talk at Joint Statistical Meetings, Vancouver, August 2010 (with J. Broatch)
- “Statistical methods for assessing teaching and program effectiveness,” Poster presented at the REESE PI meeting, Arlington VA, March 2010 (with Y. Yang).
- “Estimating variance components using random forest,” Joint Statistical Meetings, Washington DC, August 2009 (with G. Mendez, presenter).
- “Mixed models and Q-connectivity graphs for dynamics of social interactions,” Joint Statistical Meetings, Washington DC, August 2009 (with B. Eke, presenter).
- “Exploring the overlap domain in a national dual-frame (cell/landline) telephone survey: Results from the National Park Service Comprehensive Survey of the American Public,” AAPOR Annual Meeting, Hollywood, FL, June 2009 (with B. Grandjean, presenter and P. Taylor).
- “Random forests with survey data,” Joint Statistical Meetings, Salt Lake City, August 2007 (with G. Mendez, presenter).
- “Choice of randomized design in large-scale education experiments,” Joint Statistical Meetings, Salt Lake City, July 2007 (with B. Jenney, presenter).
- “Methodological issues in the ACS,” Joint Statistical Meetings, Seattle, August 2006 (with G. Kalton, presenter, T. Holt, H. Stern).
- “Robust estimation of multivariate covariance components,” Joint Statistical Meetings, New York, August 2002 (with A. Dueck, presenter).
- “Effects of attrition in the National Crime Victimization Survey,” Joint Statistical Meetings, Indianapolis, August 2000 (with L. Ybarra, presenter).
- “Condition indices and bandwidth selection in nonparametric curve estimation,” Joint Statistical Meetings, Dallas, August 1998 (with K. Prewitt, presenter).

- “Jackknife variance estimation in multiple frame surveys,” Joint Statistical Meetings, Anaheim, August 1997 (with J.N.K. Rao).
- “Reporting violent crime to the police and subsequent police activity,” at the Conference on the Statistical Analysis of Law and Justice Data, San Antonio, June 1995.
- “Reporting violent crime to the police: A longitudinal analysis of data from the National Crime Victimization Survey,” American Society of Criminology, Phoenix, October 1993.
- “The role of weights in multivariate analyses of the NCVS,” Joint Statistical Meetings, San Francisco, August 1993 (with J. Liu).
- “Optimal Bayesian experimental design for variance components,” Joint Statistical Meetings, Atlanta, August 1991.
- “Estimating design effects when cluster membership is unknown,” Bureau of Justice Statistics workshop on the National Crime Survey, July 1991.
- “Sample size estimation using variance components,” Biometric Society (ENAR) Spring Meeting, Boston, Massachusetts, March 1988.
- “Accurate multivariate estimation using double and triple sampling,” Joint Statistical Meetings, San Francisco, August 1987.
- “The relation of health risk behaviors to onset of sexual activity in adolescence,” 14th Annual Psychosocial Workshops, San Francisco, April 1986 (with B. Chewning, presenter).
- “Family communication patterns and adolescent sexual behavior,” Society for Research on Adolescence meetings, Madison, Wisconsin, April 1986 (with B. Chewning, presenter).
- “Variables associated with adolescent sexual risk-taking,” American Public Health Association Meetings, Washington, D.C., 1985 (with B. Chewning, presenter).

Invited Lectures at Universities and Research Institutions

University of Illinois (1987); Carnegie-Mellon University (1987); University of Minnesota (1987); National Institute of Neurological Disorders and Stroke (1987); National Institute of Heart, Blood, and Lung (1987); Colorado State University (1990); University of Wyoming (1990); Utah State University (1990); Los Alamos National Laboratory (1992); University of California, Los Angeles (1993); University of California, Santa Barbara (1993, 1994); University of New Mexico (1993); University of Arizona (1994); Stanford University (1994); Carleton University (1996); Statistics Canada (1996); Texas A & M University (1997); University of Texas at Austin (1998); University of Virginia (1998), Iowa State University (1998), University of Nebraska (1999), University of Texas El Paso (1999), University of Alberta (1999, 2000), UCLA (1999), University of New Mexico (2000), University of Nebraska (2000), University of Wyoming (2001), U.S. Bureau of Labor Statistics (2002), Carleton University (2003), Statistics Canada (2003), University of Alberta (2004), Los Alamos National Laboratory (2005), Ohio State University (2005), University of Waterloo (2006), Westat (2008, 2009, 2010), U.S. Census Bureau (2008, 2009), University of Waterloo (2010), Columbia University (2010), U.S. State Department (2010), Southern Methodist University (2011), Statistics Canada (2011), University of Arizona (2011).

TEACHING

Courses Taught

Arizona State University

Statistical Consulting—new course developed at ASU

Applied Sampling Methodology—new course developed at ASU

Large Sample Inference—new course developed at ASU

Book

Boen & Zahn; Derr

Lohr

Lehmann; Huber; Shao & Tu

Mixed Models—new course developed at ASU	Jiang; Demidenko
Mathematical Methods for Genetic Analysis—new course developed at ASU	readings, web sites, new materials developed for class
Statistical Genomics—new course developed at ASU	Waterman
Theory of Linear Statistical Models	Christensen; Ravishanker & Dey
Mathematical Statistics	Bain & Engelhardt
Applied Regression Analysis	Neter et al.
Applied Analysis of Variance	Neter et al.; Oehlert
Experimental Statistics	Kleinbaum et al.; Faraway
Introduction to Applied Statistics	Moore & McCabe
Elements of Statistics	Weiss
Advanced Statistical Inference (taught as independent study)	Shao
Freshman Seminar: Probability and Statistics	

University of Minnesota

Sampling and Experimental Design	Cochran; John; Silvey
Sampling Techniques for Finite Populations	Scheaffer et al; Cochran
Applied Statistics I: Regression	Weisberg
Introductory Statistical Analysis	Devore & Peck
Probability and Statistics for Engineers	Lindgren et al.

University of Wisconsin

Statistical Experimental Design for Engineers	Box, Hunter & Hunter
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Advising: Ph.D. students

Andrew Karl, expected Ph.D. Statistics, 2012. Andrew received an ASU Graduate College Dissertation Fellowship, 2011-12.

Burcu Eke, Ph.D. Statistics, 2010. “Statistical Methods for Social Network Data.”

Jennifer Broatch, Ph.D. Statistics, 2009. “Multivariate Models for Assessing Educational Effectiveness with Continuous and Categorical Responses.” Jennifer received the Moeur award for excellence in teaching, 2009.

Brenda Jenney, Ph.D. Statistics, 2009. “Hierarchical Experiments: Design for Fixed Effects and Variance Components.” Brenda received the Department of Mathematics and Statistics Graduate Student Research Award in December, 2007.

Guillermo Mendez, Ph.D. Mathematics, 2008. “Tree-based Methods to Model Dependent Data.”

Yan Lu, Ph.D. Mathematics, 2007. “Longitudinal Estimation in Dual Frame Surveys.”

Amylou Dueck, Ph.D. Mathematics, 2005. “Robust Imputation in Multivariate Hierarchical Data.” Amylou was given the Department of Mathematics and Statistics Graduate Student Research Award in 2004. She received an honorable mention in the American Statistical Association Gertrude Cox Scholarship competition in 2002, and the E.C. Bryant award for outstanding graduate student in survey sampling in 2004.

Joseph Hirman, Ph.D. Mathematics, 2003. “Small Area Estimation of Variance Functions with Application to Assimilation Theory.”

Lynn Ybarra, Ph.D. Mathematics, 2003. “Small Area Estimation Using Data from Multiple Surveys.” Lynn was awarded an ARCS Scholarship in 2000. She received the American Statistical

Association Gertrude Cox Scholarship in 1999, and the E.C. Bryant award for outstanding graduate student in survey sampling in 2000.

Trent Buskirk, Ph.D. Mathematics, 1999. “Using Nonparametric Methods for Density Estimation with Complex Survey Data.”

Advising: M.S. students

Michele Hardy, M.S. Statistics, 2005. “Evaluation of Stratification and Calibration Weights in Some Data Mining Applications.”

Brenda Jenney, M.S. Statistics, 2005. “Regression Diagnostics in Sample Surveys.” Brenda received the ASU Outstanding M.S. Statistics Student Award in 2005.

Kelli Schalk, M.S. Statistics, 2003. “Imputation Methods in the FBI Uniform Crime Reports.”

Amylou Dueck, M.S. Statistics, 2002. “Robust Estimation of Multivariate Covariance Components.”

Douglas Allen, M.S. Statistics, 1999. “Participation in Music, Academic Achievement, and Risk Behaviors in Eighth Graders: An Analysis of Complex Survey Data from the National Education Longitudinal Study of 1988.”

Lynn Tobin, M.S. Statistics, 1999. “Time-in-Sample and Attrition Effects on Misclassification and Rates of Violent Crimes in the National Crime Victimization Survey.”

Pu Shen, M.S. Statistics, 1998. “Estimates of Domestic Violence from the National Crime Victimization Survey.”

Liming Chen, M.S. Statistics, 1998. “Kmenta and Maximum Likelihood Cross-sectional Pooling with Time Series: Asymptotic Results and Small-sample Comparisons.”

Greg Rodd, M.S. Statistics, 1996. “Interactive Dynamic Graphics for Sample Size Sensitivity Analysis.”

Melissa Fazzari, M.S. Statistics, 1996. “Using Random Variables in Model Selection for Regression.”

Siyi Sun, M.S. Statistics, 1995. “Longitudinal Nonresponse in the National Crime Victimization Survey: Effects and Models.”

Michelle Divan-Briley, M.S. Statistics, 1993. “The Performance of Confidence Intervals for Variance Components with Non-normal Data.”

Joanna Liu, M.S. Statistics, 1992. “The Effects of Weights in Logistic Regression Analyses of National Crime Victimization Survey Near-Term Data.”

Advising: undergraduate honors students

Cherie Alf, B.S. Mathematics with Concentration in Statistics, 2006. Undergraduate Honors Thesis: “Cluster of Knowledge: A Study of Sampling Assumptions and Independence in Introductory Statistics Courses.” Cherie received the Department’s Undergraduate Research Award in 2005.

PROFESSIONAL SERVICE

Editorial Service

Associate Editor, *Annals of Applied Statistics*, 2009–present.

Associate Editor, *Journal of the American Statistical Association*, 2007–2011.

Associate Editor, *Journal of Official Statistics*, 1999–2010.

Associate Editor, *Journal of Statistical Software*, 2000–2002.

Assistant Editor for Survey Research, *Amstat Online*, 1999–2001.

Associate Editor, *The American Statistician*, 1993–1999.

Referee for *The American Statistician*; *Annals of Applied Statistics*; *Annals of Statistics*; *Applied Statistics*; *Biometrics*; *Biometrika*; *Canadian Journal of Statistics*; *Computational Statistics and Data Analysis*; *Criminology*; *International Statistical Review*; *Journal of Agricultural, Biological, and Environmental Statistics*; *Journal of the American Statistical Association*; *Journal of Applied Mathematics and Simulation*; *Journal of Computational and Graphical Statistics*; *Journal of Educational and Behavioral Statistics*; *Journal of Official Statistics*; *Journal of Research in Crime and Delinquency*; *Journal of the Royal Statistical Society, Series B*; *Journal of Statistical Computation and Simulation*; *Journal of Statistics Education*; *Journal of Statistical Planning and Inference*; *Journal of Quantitative Criminology*; *Jurimetrics*; *Sankhya*; *Sequential Analysis*; *Statistics and Probability Letters*; *Survey Methodology*; *Technometrics*.

American Statistical Association Service

Member of task force to launch the *Journal of Survey Statistics and Methodology*, 2011.
Chair, Survey Research Methods Section of the American Statistical Association, 2004 (Chair-elect, 2003; past chair, 2005).
Member of U.S. Census Advisory Committee of Professional Associations, 2001-2006 (Chair, 2002).
Member of Search Committee for 2006-08 editor of *The American Statistician*, 2004-2005.
Member of Uniform Crime Reports subcommittee, American Statistical Association Committee on Law and Justice Statistics, 2000-2002.
Publications Officer and Member of Executive Board, Survey Research Methods Section of the American Statistical Association, 1999-2000 (elected).
Member of American Statistical Association E.C. Bryant Scholarship Committee, 1996-1999 (Chair, 1997-1999).
Member of American Statistical Association Committee on Law and Justice Statistics, 1996-98.
President, Arizona Chapter of the American Statistical Association, 1992-93 (Vice President and Program Chair, 1991-92; elected).

Professional Activities

Member of U.S. Census Scientific Advisory Committee, 2011–2014.
Chair of external review team to review sampling research program at RTI International, 2011.
Member of Technical Working Group for the Integrated Evaluation of ARRA Funding, Implementation and Outcomes, 2010–14.
Member of Statistics Canada Advisory Committee on Statistical Methods, 2006–11.
Member of external review team to review graduate statistics program at University of Utah, 2008.
Member of National Academy of Sciences Panel on the Functionality and Usability of Data from the American Community Survey, 2004–2007.
Member of external review team to review Statistics Department at Iowa State University, 2006.
Member of Waksberg Award Committee, 2004-07 (chair, 2006-07).
Member of National Crime Victimization Survey Methodology Panel, 2005.
Member of Task Advisory Group for Fixed vs. Mobile Sampling Study for Bionet project, Los Alamos National Laboratory, 2004-2005.
Member of external panel to review research of the Statistical Research Division of Census Bureau, Dec. 18-19, 2002.
Co-organizer, International Conference on Recent Advances in Survey Sampling, Ottawa ON, July 2002.
Member of 5 NSF proposal review panels, 1997-present.
Reviewer of reports for National Research Council/CNSTAT, 2008, 2009, 2010, 2011.

Reviewer of proposals for the National Science Foundation, the Bureau of Justice Statistics, and the Natural Sciences and Engineering Research Council of Canada.

Member of Institute of Mathematical Statistics, American Statistical Association, Statistical Society of Canada, International Statistical Institute, International Association of Survey Statisticians.

Service at Arizona State University

University Service

University Committee on Statistics, 1991-present.

Program review committee for Committee on Statistics, 2002-2003.

Admissions committee for M.S. Statistics degree, 2002-2003.

Search committee for director of the Committee on Statistics, 1996.

User's Advisory Group on the Distributed Computing Transition, 1994-96

Freshman STEM improvement committee, 2006

Statistical consultant for ASU Survey Research Laboratory, 1991-2001.

Every year since 1990, I have given extensive statistical advice to faculty and graduate students at ASU, from psychology, sociology, history, exercise science, engineering, construction, education, fine arts, linguistics, law, and biological sciences. I also am one of the faculty members providing guidance and technical help to graduate students working in the Statistics Consulting Service (965-STAT).

College of Liberal Arts and Sciences

Member of hiring committee for Manager, Sampling and Survey Research Core, Institute of Social Science Research, 2005.

Member of hiring committee for Chair, Department of Mathematics and Statistics, 2004-05.

Member of faculty hiring committee, biology department, 2001-02 (bioinformatics position)

Interdisciplinary Studies Committee, Spring 1999; 1999-2000; 2001-03.

School of Mathematical and Statistical Sciences

Director, Statistics Ph.D. program (09-10, 11-12)

Personnel and Budget Committee (94-95, Spring 96, 99-00, 01-02; elected)

Review Committee (97-99; 04-05; 06-08; 08-09, chair; 09-10; elected)

Policies and Procedures Committee (chair; wrote Department Bylaws, Promotion & Tenure guidelines, and Performance Evaluation Criteria and Procedures, 94-95, 95-96, 97-98)

Tenure-track Faculty Hiring Committee (90-91, chair for statistics position; 95-96; 97-98, chair for statistics position; 01-02, chair for statistics position; 04-05; 08-09; 09-10)

Visiting Faculty Hiring Committee (97-98, 98-99)

Lecturer Hiring Committee (93-94)

Graduate Advisory Committee (95-96, 09-10)

Undergraduate Advisory Committee (90-93, 07-08)

Undergraduate Advisor (90-93)

Graduate Student Mentoring Committee (02-03; 04-06; 06-07, chair)

Numerous other departmental committees including Promotion and Tenure Subcommittees, Computing Facilities, AP Statistics, Colloquium, Mathematics Awareness Month, Calculus

Qualifying and Comprehensive Examination Committees (typically on 3-6 written exam committees every year)