

Sharon L. Lohr
Vice President, Westat

Contact Information

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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

2012–present	Vice President and Statistical Fellow, Westat, Rockville MD
2012–present	Professor Emerita, Arizona State University
2004–2012	Dean’s Distinguished Professor of Statistics, School of Mathematical and Statistical Sciences, Arizona State University
1999–2012	Affiliated faculty, ASU Center for Law, Science, and Innovation
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

Joint Program in Survey Methodology (JPSM) Distinguished Lecturer, March 11, 2016

Deming Lecturer Award, 2014, Boston, August 2014. Citation: “Sharon Lohr, Ph.D., is recognized internationally as an outstanding statistician, who has made fundamental contributions in survey sampling, small area inference, and experimental designs. From her theoretical contributions, to her influence over the teaching and application of survey sampling techniques, to her work in educational evaluation, and service to the profession of statistics; Deming’s Code of Professional Conduct has served as a blueprint for Dr. Lohr’s career.”

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

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, www.cengage.com].

2010 Lohr, S. *Computer Programs for Sampling: Design and Analysis, 2nd ed.* Boston: Brooks/Cole [online, www.cengage.com].

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

2016 Lohr, S.L., Riddles, M.K., and Morganstein, D. Tests for evaluating nonresponse bias in surveys. Accepted for publication in *Survey Methodology*.

2016 Tourangeau, R., Brick, J.M., Lohr, S., and Li, J. Adaptive and responsive survey designs: A review and assessment. *Journal of the Royal Statistical Society, Series A*, published online at <http://onlinelibrary.wiley.com/doi/10.1111/rssa.12186/abstract>.

2015 Lohr, S. and Zhu, X. Randomized sequential individual assignment in social experiments: Evaluating the design options prospectively. *Sociological Methods and Research*, published online December 27, 2015.

2015 Lohr, S. Red beads and profound knowledge: Deming and quality of education. *Education Policy Analysis Archives*, 23(80), 1-24. Available at <http://epaa.asu.edu/ojs/article/view/1972/0>.

2014 Lohr, S. and Brick, J.M. Allocation for dual frame telephone surveys with nonresponse. *Journal of Survey Statistics and Methodology*, 2, 388-409.

2014 Lohr, S. Design effects for a regression slope in a cluster sample. *Journal of Survey Statistics and Methodology*, 2, 97-125.

2014 Karl, A., Yang, Y., and Lohr, S. Computation of maximum likelihood estimates for multiresponse generalized linear mixed models with non-nested, correlated random effects. *Computational Statistics and Data Analysis*, 73, 146-162.

- 2013 Karl, A., Yang, Y., and Lohr, S. A correlated random effects model for nonignorable missing data in value-added assessment of teacher effects. *Journal of Educational and Behavioral Statistics*, 38, 577-603.
- 2013 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. *Quality Engineering*, 25, 108-117.
- 2013 Karl, A., Yang, Y., and Lohr, S. Efficient maximum likelihood estimation of multiple membership linear mixed models, with an application to educational value-added assessments. *Computational Statistics and Data Analysis*, 59, 13-27.
- 2012 Lohr, S. and Brick, J.M. Blending domain estimates from two victimization surveys with possible bias. *Canadian Journal of Statistics*, 40, 679-696.
- 2012 Lohr, S. The value Deming's ideas can add to educational evaluation. *Statistics, Politics, and Policy*, 3, issue 2, article 1.
- 2012 Broatch, J. and Lohr, S. Multidimensional assessment of value added by teachers to real-world responses. *Journal of Educational and Behavioral Statistics*, 37, 256-277.
- 2011 Lohr, S. Alternative survey sample designs: Sampling with multiple overlapping frames. *Survey Methodology*, 37, 197-213.
- 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. Available at <http://projecteuclid.org/euclid.aoas/1245676191>
- 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

2015 Lohr, S., Hsu, V., and Montaquila, J. Using classification and regression trees to model survey nonresponse. *Proceedings of the Survey Research Methods Section, American Statistical Association*, 2071–2085.

2014 Lohr, S. Red beads and profound knowledge: Deming and quality of education. *Proceedings of the American Statistical Association*, 4270–4284.

2014 Cecere, W., Jiao, R., Rozsi, M., Severynse, J., Lohr, S., and Green, J. Composite measure of size evaluation and primary sampling unit formation for NHTSA’s redesign of the National Automotive Sampling System. *Proceedings of the Survey Research Methods Section, American Statistical Association*, 1279–1290.

2014 Jiao, R., Sugawara, Y., Rozsi, M., Lohr, S., Green, J., and Cecere, W. Estimating population and design parameters for NHTSA’s new National Automotive Sampling System. *Proceedings of the Survey Research Methods Section, American Statistical Association*, 1028–1037.

2014 Rozsi, M., Cecere, W., Lohr, S., and Green, J. Creating a flexible and scalable PSU sample for NHTSA’s redesign of the National Automotive Sampling System. *Proceedings of the Survey Research Methods Section, American Statistical Association*, 1019–1027.

2014 Miller, N., Sizov, N., Lohr, S., and Cantor, D. New research on community reaction to aircraft noise in the United States. Proceedings of the 11th International Congress on Noise as a Public Health Problem (ICBEN), <http://www.icben.org/Proceedings.html>.

2014 Lohr, S. and Schochet, P.Z. Analyzing data from experiments in which the treatment groups have different hierarchical structures. SAS Global Forum 2014 Proceedings, <http://support.sas.com/resources/papers/proceedings14/1260-2014.pdf>.

2014 Lohr, S. When should a multiple frame survey be used? *The Survey Statistician*, no. 69 (January), 17–21.

2014 Brick, J.M. and Lohr, S. Allocation for dual frame telephone surveys with nonresponse. Proceedings of the 2013 Statistics Canada International Methodology Symposium (on CD-ROM). Ottawa, ON: Statistics Canada.

2014 Miller, N., Cantor, D., Lohr, S., Jodts, E., Broene, P., Williams, D., Fields, J., Gettys, M., Basner, M., and Hume, K. Research methods for understanding aircraft noise annoyances and sleep disturbance. Final report for Airport Cooperative Research Program ACRP 02-35, Transportation Research Board of the National Academies, http://onlinepubs.trb.org/onlinepubs/acrp/acrp_webdoc_017.pdf.

2013 Lohr, S., Schochet, P.Z., and Sanders, E. Partially nested randomized controlled trials in education research: A guide to theory and practice. (NCER 2014-2000). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education, 166 pages. <http://ies.ed.gov/ncer/pubs/20142000/pdf/20142000.pdf>.

- 2013 Green, J.L., Bents, F.D., Brock, D., Cecere, W., Jiao, R., Lo, A., Lohr, S., Morganstein, D., Rozsi, M.J., Severynse, J., and Sugawara, Y. Survey Modernization Analysis: Designs for a Modernized NASS. Report prepared for National Highway Traffic Safety Agency.
- 2013 Lohr, S. Statistical support for data fusion. Report prepared for Internal Revenue Service, 54 pages.
- 2013 Brick, J.M., Lohr, S., Edwards, W.S., Giambo, P., Broene, P., Williams, D., and Dipko, S. National Survey of Crime Victimization Companion Study—Pilot: Summary of Pilot Results. Report prepared for Bureau of Justice Statistics, 232 pages, www.bjs.gov/content/pub/pdf/ncvs-cs_pr.pdf.
- 2012 Lohr, S. Using SAS® for the design, analysis, and visualization of complex surveys. SAS Global Forum 2012 Proceedings, support.sas.com/resources/papers/proceedings12/343-2012.pdf.
- 2012 Edwards, W.S., Brick, J.M., and Lohr, S. Designing a low(er)-cost companion to the National Crime Victimization Survey. Proceedings of the 2012 Federal Committee on Statistical Methodology Research Conference, www.fcsm.gov/events/papers2012.html.
- 2012 Karl, A., Yang, Y., and Lohr, S. GPvam: Maximum likelihood estimation of the generalized persistence value-added model. CRAN.r-project.org/package=GPvam.
- 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*, 2449–2460.
- 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

PRESENTATIONS

Workshops Presented

- Introduction to Survey Sampling. Two-day workshop presented for Westat, May 2016.
- 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 (since 2007)

Combining data from survey and non-survey sources for policy research: Challenges and opportunities. 130th Committee on National Statistics (CNSTAT) Meeting Public Seminar, Washington, DC, May 6, 2016, http://sites.nationalacademies.org/DBASSE/CNSTAT/DBASSE_172503.

The essential survey statistician. Joint Program in Survey Methodology Distinguished Lecture, College Park, MD, March 11, 2016.

Using classification and regression trees to model survey nonresponse. Joint Statistical Meetings, Seattle, August 11, 2015 (with V. Hsu and J. Montaquila).

Kathryn Chaloner: A leader in design. DAE 2015: Design and Analysis of Experiments Conference. Cary NC, March 5, 2015.

Towards fuller understanding of partially nested RCTs. Institute of Education Sciences Principal Investigator Meeting, Washington DC, September 3, 2014.

Red beads and profound knowledge: Deming and quality of education, Deming Lecture, Joint Statistical Meetings, Boston, August 5, 2014.

The value Deming's ideas can add to education. Plenary lecture at Data Connections 2014 Conference, Lincoln NE, April 25, 2014.

Analyzing data from experiments in which the treatment groups have different hierarchical structures. SAS Global Forum 2014, Oxon Hill MD, March 25, 2014 (with P.Z. Schochet).

Allocation for dual frame surveys with nonresponse. Statistics Canada 2013 Symposium, Ottawa, ON, October 13, 2013 (with J.M. Brick, presenter).

Blending domain estimates from two victimization surveys with possible bias. Joint Statistical Meetings, Montreal, August 8, 2013 (with J.M. Brick).

Partially nested designs in education RCTs. NCER Principal Investigator Meeting March 6, 2013 (with P. Z. Schochet, presenter and E. Sanders).

The rescaling bootstrap and extensions. Joint Statistical Meetings, San Diego, July 2012.

Multidimensional assessment of value added by teachers to real-world outcomes. Joint Statistical Meetings, San Diego, August 2012 (with J.E. Broatch, presenter).

Using SAS[®] for the design, analysis, and visualization of complex surveys. Keynote address at the SAS Global Forum, Orlando FL, April 2012.

Value-added models in education: Why a statistical perspective is needed. American Statistical Association Conference on Public Policy, Alexandria VA, February 2012.

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 (with J.M. Brick).

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.

Contributed Papers (since 2007)

Design for longitudinal multiphase samples with misclassification. Joint Statistical Meetings, Chicago, August 2016 (with A. Piesse, presenter).

Accounting for uncertainty in the design. Joint Statistical Meetings, Chicago, July 2016 (in topic-contributed memorial session for Kathryn Chaloner).

Adaptive and responsive designs: A review and assessment. Federal Committee on Statistical Methodology Research Conference, Washington, DC, December 2015 (with R. Tourangeau, presenter, J.M. Brick, and J. Li).

Using mixture models for heaped data with rounded responses and true spikes. Joint Statistical Meetings, Seattle, August 2015 (with M. Riddles, presenter and A. Eftekharzadeh).

Can you hear me now? GIS applications for sampling and analysis on a survey of aircraft noise annoyance. 6th Conference of the European Survey Research Association, Reykjavik, Iceland, July 2015 (with E. Jodts, presenter, M. Giangrande, and P. Broene).

New research on community reaction to aircraft noise in the United States. 11th International Congress on Noise as a Public Health Problem (ICBEN) Nara, Japan, June 2014 (with N. Miller, presenter, N. Sizov, and D. Cantor).

Sample performance and cost in a two-stage ABS design with telephone interviewing. 68th annual meeting of the American Association of Public Opinion Research, Boston, May 2013 (with W.S. Edwards, presenter, and J.M. Brick).

A data mining approach to value added models. Joint Statistical Meetings, San Diego, July 2012 (with A. Valdivia, presenter).

Rising to the challenge: Preparing educators and society for the common core state standards. Joint Statistical Meetings, San Diego, August 2012 (chair of panel session).

Designing a low(er)-cost complement to the National Crime Victimization Survey. Federal Committee on Statistical Methodology Research Conference, Washington DC, January 2012 (with W.S. Edwards, presenter, and J.M. Brick).

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).

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

Mixed Models—new course developed at ASU

Mathematical Methods for Genetic Analysis—new course developed at ASU

Statistical Genomics—new course developed at ASU

Theory of Linear Statistical Models

Mathematical Statistics

Applied Regression Analysis

Applied Analysis of Variance

Experimental Statistics

Introduction to Applied Statistics

Elements of Statistics

Advanced Statistical Inference (taught as independent study)

Freshman Seminar: Probability and Statistics

University of Minnesota

Sampling and Experimental Design

Sampling Techniques for Finite Populations

Applied Statistics I: Regression

Introductory Statistical Analysis

Probability and Statistics for Engineers

University of Wisconsin

Statistical Experimental Design for Engineers

Book

Boen & Zahn; Derr

Lohr

Lehmann; Huber; Shao & Tu

Jiang; Demidenko

readings, web sites, new materials developed for class

Waterman

Christensen; Ravishanker & Dey

Bain & Engelhardt

Neter et al.

Neter et al.; Oehlert

Kleinbaum et al.; Faraway

Moore & McCabe

Weiss

Shao

Cochran; John; Silvey

Scheaffer et al; Cochran

Weisberg

Devore & Peck

Lindgren et al.

Box, Hunter & Hunter

Advising: Ph.D. students

- Andrew Karl, Ph.D. Statistics, 2012. A Correlated Random Effects Model for Nonignorable Missing Data in Value-Added Assessment of Teacher Effects. Andrew received an ASU Graduate College Dissertation Fellowship, 2011-12, and received the School of Mathematical and Statistical Sciences Graduate Student Research Award in April, 2012.
- 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 Moer 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 students

Geno Guerra, B.S. Mathematics, 2012. Geno received the Department's Undergraduate Research Award in 2012.

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 (since 2007)

Editorial Service

Senior Editor and Founding co-editor, *Statistics and Public Policy*, 2013–2014.

Editorial Board, *Journal of Survey Statistics and Methodology*, 2013–2015.

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

Senior Editor, *Statistics, Politics, and Policy*, 2012–2013.

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

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

American Statistical Association Service

Member of ASA Deming Award Committee, 2016–2018.

Member of ASA ad hoc advisory committee on Value-added Models, 2012–2014.

Member of task force to launch the *Journal of Survey Statistics and Methodology*, 2011.

Professional Activities

Member of National Academy of Sciences Panel on Improving Federal Statistics for Policy and Social Science Research Using Multiple Data Sources and State-of-the-Art Estimation Methods, 2015–present.

Member of California Health Interview Survey Technical Advisory Committee, 2012–2015.

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, 2010–12.

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 Waksberg Award Committee, 2004–07 (chair, 2006–07).