

You are here: [Home](#) / Michael D. Larsen

Office Hours for Spring 2014



[Make a Difference](#)



**Michael D. Larsen**

**Title:** Professor  
**Faculty:** Full-Time  
**Office:** 765  
 Rome Hall  
**Address:** 801 22nd St NW  
 Washington, DC,  
 20052  
**Phone:** 301-881-9260  
**Email:** [mlarsen@bsc.gwu.edu](mailto:mlarsen@bsc.gwu.edu)  
**Website:** <http://home.gwu.edu/~mlarsen/>

#### Areas of Expertise

Survey sampling, Missing data, Record linkage and Administrative data, Bayesian methods, Hierarchical models, Statistical modeling.

Michael Larsen, Ph.D., Professor, joined GWU's Department of Statistics and Biostatistics Center in 2009. He received a Ph.D. in Statistics from Harvard University. Before joining GW, Dr. Larsen was on faculty at four universities, most recently Iowa State University, where he earned tenure. He has consulted for and collaborated with researchers at a number of government agencies, research organizations, and academic departments. His interests include survey sampling, missing data, record linkage and administrative records, disclosure limitation and confidentiality, Bayesian statistics, hierarchical and mixture models, and statistical modeling of complex data. From 2008-2010 he was Executive Editor of [CHANCE](#) magazine. Currently he is associate editor for three journals and serves on a National Academies of Sciences Panel on Census 2010. In 2010, he became an elected member of the International Statistical Institute and the program chair-elect/program chair of the American Statistical Association's Survey Research Methods Section for 2011/2012.

**Department of  
 Statistics  
 Columbian College  
 of Arts & Sciences**  
 Rome Hall  
 801 22nd St NW  
 7th Floor  
 Washington, DC,  
 20052  
 Phone: 202-994-6356  
 | Fax: 202-994-6917



## Education

1996 Ph.D. in Statistics, Harvard University, Cambridge, MA; advisor Donald B. Rubin

1993 M.A. in Statistics, Harvard University, Cambridge, MA

1991 B.A. in Mathematics cum laude, Harvard University, Cambridge, MA

## Publications

### Books

Larsen, M.D. (2007). *Internet Companion for Statistics: Guide and Activities for the Web*, second edition, Duxbury Press.

Larsen, M.D. (2004). *Internet Companion for Statistics: Guide and Activities for the Web*, first edition, Duxbury Press.

Nusser, S.N., and Larsen, M.D. (2009). Concepts in Sample Surveys. *e-Source: Behavioral and Social Science Research Interactive Textbook*. (2009). (Eds. McKinlay JB, Marceau LD). Office of Behavioral and Social Science Research. Date Accessed 1/22/10. <http://www.esourceresearch.org>.

Larsen, M.D. (2004). Record linkage using finite mixture models. *Applied Bayesian Modeling and Causal Inference from Incomplete-Data Perspectives*, A. Gelman and X-L. Meng, editors. 309-318.

Larsen, M.D. (2008). Book review of *Data Quality and Record Linkage Techniques*, by T.N. Herzog, F.J. Scheuren, and W.E. Winkler. *Journal of Official Statistics*, 24, 2, 327-330.

Larsen, M.D. (2006). Book review of *Panel and Longitudinal Data: Analysis and Applications in the Social Sciences*, by E.W. Frees. *Journal of the American Statistical Association*, 101, 402.

Larsen, M.D. (2004). Book review of *Cross-Cultural Survey Methods*, Wiley, by J.A. Harkness, F.J.R. van de Vijver, and P.Ph. Mohler. *Journal of the American Statistical Association*, 99, 907.

Larsen, M.D. (2002). Book review of *The Psychology of Survey Response*, by R. Tourangeau, L.J. Rips, and K. Rasinski. *Journal of the American Statistical Association*, 97, 358-359.

## Refereed Publications

C. Cervato, W. A. Gallus, Jr., P. Boysen, and M. Larsen. (2011). Dynamic Weather Forecaster: results of the testing of a collaborative, on-line educational platform for weather forecasting. *Earth Science Informatics*, 4(4): 181-189.

Kang, S.S., and Larsen, M.D. (2011). Tests of independence in incomplete multi-way tables using likelihood functions. *Journal of the Korean Statistical Society*, [TO APPEAR]

National Research Council. (2011). *Change and the 2020 Census: Not Whether But How*. Panel to Review the 2010 Census (Member: Larsen). T.M. Cook, J.L. Norwood, and D.L. Cork, eds. Committee on National Statistics, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

- Wich, S., Vogel, ER, Larsen, MD, Marshall, AJ, Fredricksson, G, Leighton, M, Yeager, CP, Brearly, FQ, and van Schaik, CP. (2011). A Comparison of Forest Fruit Production between Sumatra and Borneo. *PLOS ONE*. [ACCEPTED]
- Vogel, E.R., Crowley, B.E., Knott, C.D., Blakely, M.D., Larsen, M.D., and Dominy, N.J. (2011). A Non-invasive Method for Quantifying Nitrogen Balance in Free-Ranging Primates. *International Journal of Primatology*. [ACCEPTED]
- Larsen, M.D., and Hockett, J. (2011). Multimethod Synthetic Data Generation for Confidentiality and Measurement of Disclosure Risk. *International Journal of Information Privacy, Security and Integrity*. [Accepted]
- Kang, S.S., Koehler, K.J., and Larsen, M.D. (2011). Fractional Imputation for Incomplete Two-Way Contingency Tables. *Metrika*. [Accepted]
- Kang, S.S., and Larsen, M.D. (2011). Tests of Independence with Incomplete Contingency Tables using Likelihood Functions. *Journal of Data Science*. 9(4): 487-500.
- Larsen, M.D. (2011). Discussion of "Calibrated Bayes" by R.J.A. Little. *Statistical Science*, 26(2): 175-178.
- Larsen, M.D., and Hockett, J. (2010). Measuring Disclosure Risk for Multimethod Synthetic Data Generation. *IEEE International Conference on Privacy, Security, Risk and Trust*. 808-815. [13% acceptance rate]
- C. Cervato, W. Gallus, P. Boysen, and M. Larsen. (2009). Today's forecast: higher thinking with a chance of conceptual growth -- A dynamic, web-based weather forecasting exercise. *Eos*.
- Parham, T.L., Cinzia, C., Gallus, W., Larsen, M., Hobbs, J., and Greenbowe, T. (2011). Does Students' Source of Knowledge Affect Their Understanding of Volcanic Systems? *Journal of College Science Teaching*, [TO APPEAR].
- Parham, T.L., Jr., Cervato, C., Gallus, W.A., Jr., Larsen, M.D., Stelling, P., Hobbs, J., Greenbowe, T., Gupta, T., Knox, J.A., and Gill, T.E. (2009). The InVEST Volcanic Concept Survey: Exploring Student Understanding About Volcanoes. *Journal of Geoscience Education*. [ACCEPTED, 2010]
- Barnes, S.A., Larsen, M.D., Schroeder, D.R., Hanson, A., and Decker, P.A. (2010). Missing data assumptions and methods in a smoking cessation study. *Addiction*, 105, 3, 431-437.
- Nusser, S.N., and Larsen, M.D. (2009). Concepts in Sample Surveys. e-Source: Behavioral and Social Science Research Interactive Textbook. (2009). (Eds. McKinlay JB, Marceau LD). Office of Behavioral and Social Science Research. Date Accessed 1/22/10. <http://www.esourceresearch.org>.
- Lavelle, B., Larsen, M.D., and Gundersen, C. (2009). RESEARCH SYNTHESIS: Research strategies for surveys of American Indians. *Public Opinion Quarterly*. 73: 385-403.
- Larsen, C.D., Larsen, M.D., Handwerker, L., Kim, M.S., and Rosenthal, M. (2009). A comparison of school-based and community-based dental clinics. *Journal of School Health*. 79 (3): 116-122.
- Guy, B., Sitlington, P.L., Larsen, M.D., and Frank, A.R. (2009). Preparation for Employment: What Are High Schools Offering? *Career Development for Exceptional Individuals*. Vol. 32, No. 1, 30-41.

Wainer, H., and Larsen, M.D. (2009). Pictures at an Exhibition, *Chance*, Visual Revelations column, 22, 2, 46-54.

Fletcher, C. N., C. Gundersen, M. Larsen, S. Nusser (2008), 'Consumer views on the biofuel industry: does proximity matter?', *Consumer Interests Annual*, 54, 185-186.

Harding, C., Cervato C., Larsen, M.D., Windom, K.E., Dawson, J. (2008) Exploring the use of 3-D computer graphics for teaching relative geologic time concepts in large introductory geology classes. *Teaching Earth Sciences* (UK), Vol. 33, Issue 2, pp 19-22.

Larsen, M.D. (2008). Book review of *Data Quality and Record Linkage Techniques*, by T.N. Herzog, F.J. Scheuren, and W.E. Winkler. *Journal of Official Statistics*, 24, 2, 327-330.

Larsen, M.D. (2008). Discussion of "Modeling and Predicting Probabilities with Outlooks": Prior information as prior observations and a mixture model. *Statistica Sinica*, 18, n1, 69-75.

Larsen, M.D., and Lu, L. (2007). Comment on "Bayesian Checking of the Second Level of Hierarchical Models" by Bayarri and Castellanos: Cross-validated Posterior Predictive Checks Using Discrepancy Measures. *Statistical Science*, 22, n3, 359-362.

Larsen, C.D., Stavisky, E., Larsen, M.D., and Rosenbaum, M. (2007). Children's fingernail hygiene and length as predictors of carious teeth. *The New York State Dental Journal*, 73, 2, 33-37.

Larsen, M.D. (2007). Definitions in *Encyclopedia of Survey Sampling*, Sage: Optimal allocation, Proportional allocation.

Hewitt, K.A., and Larsen, M.D. (2007). Design of a survey of high school students in Iowa: Studying design choices using simulation. *Stats*. To appear. Note: *Stats* was discontinued.

Larsen, M.D. (2006). Ideas for Secure Record Linkage. *Privacy in Statistical Databases 2006*. [CDROM]. CENEX-SDC Conference. Rome, Italy.

Larsen, M.D. (2006). Advice for new and student lecturers on probability and statistics. *Journal of Statistics Education*, 14 (1).

Larsen, M.D. (2006). Book review of *Panel and Longitudinal Data: Analysis and Applications in the Social Sciences*, by E.W. Frees. *Journal of the American Statistical Association*, 101, 402.

Larsen, M.D. (2006). Definitions in *Encyclopedia of Measurement and Statistics*, Sage: Cluster sampling, Convenience sampling, Latent class analysis, Nonprobability sampling, Quota sampling, Record linkage, Three-card method.

Lahiri, P., and Larsen, M.D. (2005). Regression analysis with linked data. *Journal of the American Statistical Association*, 100, 222-230.

Larsen, M.D., and Liu, J. (2005). Factors affecting clustering of 0-1 data. *Classification and Data Analysis 2005*, editors S. Zani and A. Cerioli, Fifth Scientific Meeting of the Classification and Data Analysis Group of the Italian Statistical Society, 401-404.

- Larsen, M.D. (2005). Latent class analysis of 1997 NSF SESTAT survey data on science PhDs. *Calcutta Statistical Association Bulletin*, 56, 189-208.
- Larsen, M.D. (2005). Revisions to entries. *World Book Encyclopedia*. World Book: Average, Mean, Median, Mode, and Statistics.
- Larsen, M.D. (2004). Record linkage using finite mixture models. *Applied Bayesian Modeling and Causal Inference from Incomplete-Data Perspectives*, A. Gelman and X-L. Meng, editors. 309-318.
- Gomatam, S., and Larsen, M.D. (2004). Record linkage and counterterrorism. *Chance*, 17 (1), 25-29.
- Larsen, M.D. (2004). Book review of *Cross-Cultural Survey Methods*, Wiley, by J.A. Harkness, F.J.R. van de Vijver, and P.Ph. Mohler. *Journal of the American Statistical Association*, 99, 907.
- Larsen, M.D. (2004). Active learning of probability through contrasts. *Statistics Teachers Network Newsletter*, 65, 3-5.
- Larsen, M.D. (2003). Estimation of small-area proportions using covariates and survey data. *Journal of Statistical Planning and Inference*, 112 (1-2), 89 - 98.
- Larsen, M.D. (2002). Impact of latent class clustering of NSF doctoral survey data on adjusted Rand index values. *Statistics in Transition*, 5 (5), 843-856.
- Larsen, M.D. (2002). Book review of *The Psychology of Survey Response*, by R. Tourangeau, L.J. Rips, and K. Rasinski. *Journal of the American Statistical Association*, 97, 358-359.
- Larsen, M.D., and Rubin, D.B. (2001). Iterative automated record linkage using mixture models. *Journal of the American Statistical Association*, 96, 32-41.
- Chattopadhyay, M., Lahiri, P., Larsen, M.D., and Reimnitz, J. (1999). Composite estimation of drug prevalences for sub-state areas. *Survey Methodology*, 25, 81-86.
- Larsen, M.D. (1999). Analysis of a survey on smoking using propensity scores. *Sankhya B, Special Issue on Survey Sampling*, 61, 91-105.
- Larsen, M.D. (1999). Identifying residents in administrative records that do not match the Census. *Turning Administrative Systems Into Information Systems*. Internal Revenue Service, Statistics of Income Publication 1299.
- Larsen, M.D. (1999). Predicting the residency status for administrative records that do not match census records. *Administrative Records Research Memorandum Series, #20*, Census Bureau, U.S. Department of Commerce.
- Hsieh, F.Y., Bloch, D.A., and Larsen, M.D. (1998). A simple method for sample size calculation for linear and logistic regression. *Statistics in Medicine*, 17, 1623-1634.

Non Refereed Publications

- Larsen, M.D., Foulkes, M.A., Qing, S., and Zhou, B. (2011). Calibration Estimation and Longitudinal Survey Weights: Application to the NSF Survey of Doctorate Recipients. *Proceedings of the Survey Research Methods Section, ASA*. Miami Beach
- Krenzke, T., Li, J., Judkins, D., and Larsen, M.D. (2011). Evaluating a Constrained Hotdeck to Perturb American Community Survey Data for the Census Transportation Planning Products. *Proceedings of the Survey Research Methods Section, ASA*. Miami Beach
- Krenzke, T., Li, J., Judkins, D., and Larsen, M.D. (2011). On Variance Estimation for the Census Transportation Planning Products (CTPP) Using the Perturbed American Community Survey (ACS) Data. *Proceedings of the Survey Research Methods Section, ASA*. Miami Beach, FL.
- Larsen, M.D. (2010). Discussion of Measurement Issues in Counting Workplace Injuries and Illnesses. *Proceedings of the Survey Research Methods Section, ASA*. Vancouver, BC, Canada
- Larsen, M.D. (2010). Record Linkage Modeling in Federal Statistical Databases. *FCSM Research Conference*, Washington, DC.
- Alf, C.J., Larsen, M.D., and Lorenz, F.O. (2009). The practice of imputation methods with structural equation models. *Proceedings of the Survey Research Methods Section, ASA*. Washington, DC
- Lu, L., and Larsen, M.D. (2008). Hierarchical Model Selection Using a Benchmark Discrepancy. *Proceedings of the Survey Research / IEEE International Conference on Social Computing / IEEE International Conference on Privacy, Security, Risk and Trust Methods Section, ASA*. Denver, CO
- Paik, M., and Larsen, M.D. (2008). Extension of Fractional Imputation to General Missingness Patterns using Maximum Likelihood. *Proceedings of the Survey Research Methods Section, ASA*. Denver, CO
- Huckett, J.C., and Larsen, M.D. (2008). Combining Methods To Create Synthetic Microdata: Quantile Regression, Hot Deck, And Rank Swapping. *Proceedings of the Statistical Society of Canada, Survey Methods Section*. Ottawa, Ontario, Canada.
- Huckett, J.C., and Larsen, M.D. (2008). Measuring Disclosure Risk for a Synthetic Data Set Created Using Multiple Methods *Proceedings of the Survey Research Methods Section, ASA*. Denver, CO.
- Huckett, J., and Larsen, M.D. (2007). Microdata simulation for confidentiality protection using regression quantiles and hot deck. *Proceedings of the Survey Research Methods Section, ASA*. Salt Lake City, UT.
- Larsen, M.D. (2007). The SPAIG salary survey. *Proceedings of the American Statistical Association*. SPAIG Committee Invited Sessions Proceedings. Salt Lake City, UT.
- Larsen, M.D. (2007). Discussion of Confronting the Realities of Massive Imputation in Complex Surveys. *Proceedings of the Survey Research Methods Section, ASA*. Salt Lake City, UT.
- Paik, M., and Larsen, M.D. (2007). Weight Adjustments for Fractional Regression Hot Deck Imputation. *Proceedings of*

*the Survey Research Methods Section, ASA.* Salt Lake City, UT.

Lu, L., and Larsen, M.D. (2007). Small Area Estimation in a Survey of High School Students in Iowa. *Proceedings of the Survey Research Methods Section, ASA.* Salt Lake City, UT.

Lu, L., and Larsen, M.D. (2007). Variance Estimation in a High School Student Survey with One-Per-Stratum Strata. *Proceedings of the Third International Conference on Establishment Surveys (ICES-III).* Montreal, Quebec, Canada.

Kang, S., Koehler, K.J., Larsen, M.D. (2007). Partial Fully Efficient Fractional Imputation for Incomplete Contingency Tables with Covariates. *Proc. of the Biopharmaceutical Section, ASA.* Salt Lake City, UT.

Huckett, J., and Larsen, M.D. (2007). Microdata Simulation for Confidentiality of Tax Returns Using Quantile Regression and Hot Deck. *Proceedings of the Third International Conference on Establishment Surveys (ICES-III).* Montreal, Quebec, Canada.

Larsen, M.D. (2006). Record linkage, nondisclosure, counterterrorism, and statistics. *Proceedings of the Survey Methods Section, Canadian Statistical Society.* London, Ontario, Canada.

Paik, M., Larsen, M.D., and Kang, S.S. (2006). Fractional imputation for missing values in linear regression models. *Proceedings of the Survey Research Methods Section, ASA.* Seattle, WA.

Larsen, M.D., Barnes, S.A., Decker, P., Schroeder, D., Klesges, R., and Van der Weg, M.W. (2006). Missing data assumptions and methods in smoking cessation trials. *Proceedings of the Survey Research Methods Section, ASA.* Seattle, WA.

Kang, S.S., Koehler, K.J., Larsen, M.D. (2006). Tests of independence with incomplete contingency tables using likelihood functions. *Proc. of the Survey Research Methods Section, ASA.* Seattle, WA.

Lu, L., and Larsen, M.D. (2006). A comparison of methods for a survey of high school students in Iowa. *Proceedings of the Survey Research Methods Section, ASA.* Seattle, WA.

Larsen, M.D., and Zanutto, E.L. (2006). Statistical methodology for studying women and minorities in information technology careers using NSF's SESTAT data. *Proceedings of the National Science Foundation Information Technology Workforce (ITWF) Spring Meeting.* April 2006.

Larsen, M.D. (2005). Advances in record linkage theory. *Proceedings of the Survey Research Methods Section, ASA.* Minneapolis, MN.

Hewitt, K., and Larsen, M.D. (2005). Designing a sampling method for a survey of Iowa high school seniors. *Proceedings of the Survey Research Methods Section, ASA.* Minneapolis, MN.

Liza M. Nirelli, Michael D. Larsen, Ivana T. Croghan, Darrell R. Schroeder, Kenneth P. Offord, and Richard D. Hurt. (2005). Comparison of methods for handling missing data in a collegiate survey of tobacco use. *Proceedings of the Survey Research Methods Section, ASA.* Minneapolis, MN.

- Larsen, M.D. (2005). Multiple imputation for cluster analysis. *Proceedings of the INTERFACE*. Interface Foundation of North America. St. Louis, MO.
- Larsen, M.D., and Liu, J. (2005). Factors affecting clustering of multivariate binary data. RC33 Sixth International Conference on Social Science Methodology 2004, Amsterdam, Netherlands. German Publisher Budrich-Verlag. 2nd Edition CDROM, 1-15. Amsterdam, Netherlands.
- Larsen, M.D. (2005). Comments on analyzing survey error with latent class models. March 18, 2005, NISS Workshop on Total Survey Error at the Bureau of Labor Statistics, Washington, D.C.
- Larsen, M.D. (2004). Bayesian hierarchical modeling of NRI survey data. *Proceedings of the Survey Research Methods Section, ASA*. Toronto, Ontario, Canada.
- Larsen, M.D. (2003). Comparison of Alternative Latent Class Clusterings of Survey Data. *Proceedings of the Social Statistics Section, ASA*, 2312-2317. San Francisco, CA.
- Larsen, M.D. (2002). Comments on hierarchical Bayesian record linkage. *2002 Proceedings of the Section on Bayesian Statistical Science, ASA*, 1995-2000. New York, NY.
- Larsen, M.D. (2001). Methods for model-based record linkage and analysis of linked files. *Proceedings of the Government Statistics Section, ASA*. Atlanta, GA.
- Lahiri, P., and Larsen, M.D. (2000). Model-based analysis of records linked using mixture models. *Proceedings of the Survey Research Methods Section, ASA*, 11-19. Indianapolis, IN.
- Larsen, M.D. (2000). Estimation of small-area proportions using survey weights. *Proceedings of the Government Statistics Section, ASA*. Indianapolis, IN.
- Larsen, M.D. (1999). Identifying residents in administrative records that do not match the Census. *Proceedings of the Government Statistics Section, ASA*. Baltimore, MD.
- Larsen, M.D. (1999). Multiple imputation analysis of records linked using mixture models. *Proceedings of the Survey Methods Section, Statistical Society of Canada*. 65-71. Regina, Saskatchewan, Canada.
- Larsen, M.D. (1997). Illustrations of Bayesian methods for comparing normal mixture models. *Proceedings of the Section on Bayesian Statistical Science, ASA*, 92-97. Anaheim, CA.
- Larsen, M.D. (1997). Modeling that uses experience in record linkage. *Record Linkage Techniques -- 1997*. Federal Committee on Statistical Methodology, 81-94. Washington, DC.
- Chattopadhyay, M., Lahiri, P., Larsen, M.D., and Reimnitz, J. (1996). Methods for small area estimation of proportions. *Proc. of the Census Bureau Annual Research Conference*, 638-647.
- Larsen, M.D. (1995). Bayesian methods for normal mixture models applied in psychology. *Proceedings of the Section on Bayesian Statistics*. 71-76. Orlando, FL.



Larsen, M.D. (1994). Data augmentation with Bayesian iterative proportional fitting applied to a Census Bureau latent-class problem. *Proc. of the Government Statistics Section, ASA*, 116-121. Toronto, Ontario, Canada.

#### Technical Reports

Krenzke, T., Li, J., Freedman, M., Judkins, D., Hubble, D., Roisman, R., and Larsen, M. (2011). Producing transportation data products from the American Community Survey that comply with disclosure rules. *NCHRP Project 08-79 Final Report*. Prepared for National Cooperative Highway Research Program Transportation Research Board of The National Academies.

Lu, L., and Larsen, M.D. (2008). Posterior estimation for some GLMMs. *Technical Report*, CSSM, ISU, Ames Iowa.

Larsen, M.D. (2007). Record linkage, nondisclosure, counterterrorism, and statistics. Whitepaper. March 1, 2007. *NRC Committee on Technical and Privacy Dimensions of Information for Terrorism Prevention and Other National Goals*.

Fishbein, H., Larsen, M.D., Chattopadhyay, M. (1999). Analyses of attitudes, behaviors, and knowledge among smoking-status subgroups in California. *The Gallup Organization, Inc.*, White paper. 4/30/99.

Christiansen, E., Larsen, Max D., Larsen, Michael D., Sandoval, J.S.O. (1998). Attitudes towards smoking in a nationally representative survey of U.S. adults. *The Gallup Organization, Inc.* White Paper.

#### Classes Taught

Stat [6287](#): Modern Theory of Sample Surveys

---

---

[Campus Advisories](#)

[Non-Discrimination Policy](#)

[Privacy Policy](#)

[Terms of Use](#)

[Copyright](#)

[Contact GW](#)

[A-Z Index](#)