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# NATHANIEL SCHENKER

## Contact Information

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## Education

Ph.D. (Statistics), University of Chicago, 1985.

S.M. (Statistics), University of Chicago, 1983.

A.B. (Statistics), Princeton University, 1979.

## Employment

Adjunct Professor, Joint Program in Survey Methodology (University of Maryland at College Park, University of Michigan, and Westat, Inc.), 2000 to present.

Senior Scientist for Research and Methodology, National Center for Health Statistics, 1999 to present.

Associate Professor (joint appointment), Department of Biomathematics, UCLA School of Medicine, 1993 to 1999.

Associate Professor (with tenure), Department of Biostatistics, UCLA School of Public Health, 1992 to 1999.

Vice Chair, Department of Biostatistics, UCLA School of Public Health, 1992 to 1998.

Director, Statistical/Biomathematical Consulting Clinic, Departments of Biomathematics and Biostatistics, UCLA, 1993 to 1995.

Assistant Professor, Department of Biostatistics, UCLA School of Public Health, 1988 to 1992.

Mathematical Statistician, Statistical Research Division, U.S. Bureau of the Census, 1985 to 1988.

Statistician, RAND, 1982.

Statistician, CNA Insurance Company, 1980, 1981.

**Consulting Activities**

Consultant to the UCLA Center for Health Policy Research on a project to create synthetic estimates of the number of children in local areas who are eligible for subsidized health insurance, 1997 to 1998.

Consultant to RAND on a project to conduct a survey to investigate factors associated with the use of mammography screening, 1994 to 1996.

Consultant to the U.S. Bureau of the Census on methods for the 2000 census through a contract with the National Opinion Research Center, 1994 to 1995.

Pro bono participant in a conference on intercensal population estimates, U.S. Bureau of the Census, October 1991.

Pro bono participant in a post-enumeration survey evaluation conference, U.S. Bureau of the Census, September 1990.

**Grants**

Co-Investigator, "Cure Models with Covariates," National Cancer Institute, 1997 to 1999, J.M.G. Taylor, Principal Investigator.

Principal Investigator, "Handling Missing Covariates in Analyses of Cancer Data," National Cancer Institute, 1994 to 1999.

Co-Investigator, "Statistical Methods in AIDS Research," National Institute of Allergy and Infectious Diseases, 1993 to 1999, J.M.G. Taylor, Principal Investigator.

Co-Investigator, "Statistical Methodology for Mental Health Research," National Institute of Mental Health, 1990 to 1993, R.J.A. Little, Principal Investigator.

Principal Investigator, "Methods of Handling Missing Data and Assessing the Variability Due to Missing Data," U.S. Bureau of the Census, 1989 to 1990.

Researcher, "Statistical Software for Mental Health Research," National Institute of Mental Health, 1988 to 1989, W.J. Dixon, Principal Investigator.

**Editorial Work**

Referee, *American Political Science Review*, *Biometrics*, *Biometrika*, *Canadian Journal of Statistics*, *Computational Statistics and Data Analysis*, *Journal of the American Medical Association*, *Journal of the American Statistical Association*, *Journal of Business and Economic Statistics*, *Journal of Official Statistics*, *Psychological Methods*, *Statistica Sinica*, *Statistical Science*, *Statistics in Medicine*, *Survey Methodology*, and *The American Statistician*.

Report reviewer, Committee on National Statistics, National Research Council, 1997, 2000.

Associate Editor for Applications and Case Studies, *Journal of the American Statistical Association*, 1990 to 1995.

Editor, special section entitled "Undercount in the 1990 Census," *Journal of the American Statistical Association,* 1993.

Grant reviewer, National Science Foundation, 1992.


**Other Professional Activities**

Program Chair-Elect, 2002 Joint Statistical Meetings of the American Statistical Association, Institute of Mathematical Statistics, International Biometric Society (Eastern and Western North American Regions), and Statistical Society of Canada, 2000 to present.

Member, Planning Committee, Eighth Biennial Statistical Methods Symposium, Centers for Disease Control and Prevention, 2000 to present.

Member, Task Force on Electronic Journals, American Statistical Association, 1999 to present.

Member, Committee on Publications, American Statistical Association, 1997 to present.

Member, Safety Indicators Subgroup, Workshop on Key Transportation Indicators, Committee on National Statistics and Transportation Research Board, National Research Council, 2000.

Program Chair, Section on Survey Research Methods, American Statistical Association, 1999.

Member, Panel on Alternative Census Methodologies, Committee on National Statistics, National Research Council, 1995 to 1999.

Member, Search Committee for Web Editor, American Statistical Association, 1998.

Organizer, invited paper session entitled "Auxiliary Variables in Clinical Trials," Meeting of the International Biometric Society (Western North American Region), 1998.

Program Chair, Meeting of the International Biometric Society (Western North American Region), 1994.

Member of organizing committee and master of ceremonies, Southern California Workshop in Applied Statistics, 1989.

Organizer, invited paper session entitled "Multiple Imputation for Missing Survey Data," Joint Statistical Meetings, 1988.

Member, American Statistical Association and Institute of Mathematical Statistics.


**Honors**

Distinguished Teaching Award, UCLA Public Health Students Association, 1997.

Elected Fellow, American Statistical Association, 1995.

Elected member, Delta Omega Society, 1994.

Award for superior performance, U.S. Bureau of the Census, 1987.

Letter of commendation, Professional Skills Development Program, U.S. Bureau of the Census, 1987.

Special student award, Department of Statistics, Princeton University, 1979.


**Publications in Journals and Books**

Zhuang, D., Schenker, N., Taylor, J.M.G., Mosseri, V., and Dubray, B. (2000), "Analysing the Effects of Anaemia on Local Recurrence of Head and Neck Cancer When Covariate Values Are Missing," *Statistics in Medicine*, 19, 1237-1249.

Schafer, J.L., and Schenker, N. (2000), "Inference with Imputed Conditional Means," *Journal of the American Statistical Association*, 95, 144-154.

Panel on Alternative Census Methodologies (1999), *Measuring a Changing Nation: Modern Methods for the 2000 Census*, M.L. Cohen, A.A. White, and K.F. Rust, Eds., Washington: National Academy Press.

Cho, M., and Schenker, N. (1999), "Fitting the Log-F Accelerated Failure Time Model with Incomplete Covariate Data," *Biometrics*, 55, 826-833.

Meng, X., and Schenker, N. (1999), "Maximum Likelihood Estimation for Linear Regression Models with Right Censored Outcomes and Missing Predictors," *Computational Statistics & Data Analysis*, 29, 471-483.

Barnard, J., Rubin, D.B., and Schenker, N. (1998), "Multiple Imputation Methods," in *Encyclopedia of Biostatistics*, Volume 4, P. Armitage, and T. Colton, Eds., Chichester: Wiley, pp. 2772-2780.

Rubin, D.B., and Schenker, N. (1998), "Imputation," in *Encyclopedia of Statistical Sciences*, S. Kotz, C.B. Read, and D.L. Banks, Eds., New York: Wiley, 336-342.

Faucett, C.L., Schenker, N., and Elashoff, R.M. (1998), "Analysis of Censored Survival Data with Intermittently Observed Time-Dependent Binary Covariates," *Journal of the American Statistical Association*, 93, 427-437.

Panel on Alternative Census Methodologies (1997), *Preparing for the 2000 Census*, A.A. White and K.F. Rust, Eds., Washington: National Academy Press.

Panel on Alternative Census Methodologies (1996), *Sampling in the 2000 Census*, A.A. White and K.F. Rust, Eds., Washington: National Academy Press.

Schenker, N., and Taylor, J.M.G. (1996), "Partially Parametric Techniques for Multiple Imputation," *Computational Statistics & Data Analysis*, 22, 425-446.

Little, R.J.A., and Schenker, N. (1995), "Missing Data," in *Handbook of Statistical Modeling in the Social and Behavioral Sciences*, G. Arminger, C.C. Clogg, and M.E. Sobel, Eds., New York: Plenum, 39-75.

Schenker, N. (1993), "Undercount in the 1990 Census," *Journal of the American Statistical Association*, 88, 1044-1046.

Dorey, F.J., Little, R.J.A., and Schenker, N. (1993), "Multiple Imputation for Threshold-Crossing Data with Interval Censoring," *Statistics in Medicine*, 12, 1589-1603.

Schenker, N., Treiman, D.J., and Weidman, L. (1993), "Analyses of Public-Use Decennial Census Data with Multiply-Imputed Industry and Occupation Codes," *Applied Statistics*, 42, 545-556.

Rubin, D.B., and Schenker, N. (1991), "Multiple Imputation in Health-Care Data Bases: An Overview and Some Applications," *Statistics in Medicine*, 10, 585-598.

Clogg, C.C., Rubin, D.B., Schenker, N., Schultz, B., and Weidman, L. (1991), "Multiple Imputation of Industry and Occupation Codes in Census Public-Use Samples Using Bayesian Logistic Regression," *Journal of the American Statistical Association*, 86, 68-78.

Schenker, N., and Welsh, A.H. (1988), "Asymptotic Results for Multiple Imputation," *Annals of Statistics*, 16, 1550-1566.

Rubin, D.B., Schafer, J.L., and Schenker, N. (1988), "Imputation Strategies for Missing Values in Post-Enumeration Surveys," *Survey Methodology*, 14, 209-221.

Schenker, N. (1988), "Handling Missing Data in Coverage Estimation, with Application to the 1986 Test of Adjustment Related Operations," *Survey Methodology*, 14, 87-97.

Rubin, D.B., and Schenker, N. (1987), "Interval Estimation from Multiply-Imputed Data: A Case Study Using Census Agriculture Industry Codes," *Journal of Official Statistics*, 3, 375-387.

Rubin, D.B., and Schenker, N. (1987), "Logit-Based Interval Estimation for Binomial Data Using the Jeffreys Prior," *Sociological Methodology*, 17, 131-144.

Schenker, N. (1987), "Comment on 'Better Bootstrap Confidence Intervals' by Efron," *Journal of the American Statistical Association*, 82, 192-194.

Rubin, D.B., and Schenker, N. (1986), "Efficiently Simulating the Coverage Properties of Interval Estimates," *Applied Statistics*, 35, 159-167.

Rubin, D.B., and Schenker, N. (1986), "Multiple Imputation for Interval Estimation from Simple Random Samples with Ignorable Nonresponse," *Journal of the American Statistical Association*, 81, 366-374.

Schenker, N. (1985), "Qualms About Bootstrap Confidence Intervals," *Journal of the American Statistical Association*, 80, 360-361.

Meyers, G., and Schenker, N. (1983), "Parameter Uncertainty in the Collective Risk Model," *Proceedings of the Casualty Actuarial Society*, LXX, 111-143.

**Publications in Proceedings of Conferences**

Belin, T.R., Schenker, N., and Zaslavsky, A.M. (1999), "Downweighting Influential Clusters in Surveys, with Application to the 1990 Post-Enumeration Survey," to appear in the *American Statistical Association Proceedings of the Section on Survey Research Methods*.

Diffendal, G.J., Zaslavsky, A.M., Belin, T.R., and Schenker, N. (1994), "Influential Observations in the 1990 Post-Enumeration Survey," *Proceedings of the 1994 Annual Research Conference*, U.S. Bureau of the Census, 523-548.

Schafer, J.L., and Schenker, N. (1991), "Variance Estimation with Imputed Means," *American Statistical Association Proceedings of the Section on Survey Research Methods*, 696-701.

Lazzeroni, L.C., Schenker, N., and Taylor, J.M.G. (1990), "Robustness of Multiple-Imputation Techniques to Model Misspecification," *American Statistical Association Proceedings of the Section on Survey Research Methods*, 260-265.

Schenker, N. (1989), "The Use of Imputed Probabilities for Missing Binary Data," *Proceedings of the Fifth Annual Research Conference*, U.S. Bureau of the Census, 133-139.

Schenker, N., Treiman, D.J., and Weidman, L. (1988), "Multiple Imputation of Industry and Occupation Codes for Public-Use Files," *American Statistical Association Proceedings of the Section on Survey Research Methods*, 85-92.

Rubin, D.B., Schafer, J.L., and Schenker, N. (1988), "Imputation Strategies for Estimating the Undercount," *Proceedings of the Fourth Annual Research Conference*, U.S. Bureau of the Census, 151-159.

Schenker, N., and Wolter, K.M. (1987), "Handling Missing Data in Coverage Measurement Surveys," *Proceedings of the International Statistical Institute*, 393-394.

Childers, D., Diffendal, G., Hogan, H., Schenker, N., and Wolter, K. (1987), "The Technical Feasibility of Correcting the 1990 Census," *American Statistical Association Proceedings of the Social Statistics Section*, 36-45.

Schenker, N. (1987), "Handling Missing Data in the 1986 Test of Adjustment Related Operations," *American Statistical Association Proceedings of the Section on Survey Research Methods*, 639-643.

Rubin, D.B., and Schenker, N. (1986), "Efficiently Simulating the Coverage Properties of Interval Estimates" (abstract), *American Statistical Association Proceedings of the Section on Statistical Computing*, 286.

Meyers, G., and Schenker, N. (1982), "Parameter Uncertainty in the Collective Risk Model" (with discussion), in *Pricing, Underwriting, and Managing the Large Risk*, discussion paper program, Casualty Actuarial Society.

**Seminar Presentations**

"Survival Analysis Using Auxiliary Variables via Multiple Imputation, with Application to AIDS Clinical Trial Data," Joint Statistical Meetings (2000).

"Analyzing the Effects of Anemia on Local Recurrence of Head and Neck Cancer When Covariate Values Are Missing," National Cancer Institute (2000), Columbia University (2000), and Food and Drug Administration (2000).

"Downweighting Influential PSUs in Surveys, with Application to the 1990 Post-Enumeration Survey," University of Maryland videoconference with University of Michigan (2000), National Center for Health Statistics (2000), and Bureau of the Census (2000).

Discussion of "Replication Methods for Variance Estimation in Complex Surveys with Imputed Data" by Jun Shao, International Conference on Survey Nonresponse (1999).

"Analysis of Censored Survival Data with Missing Time-Dependent Binary Covariates," University of Michigan (1996), UCLA (1996), National Opinion Research Center (1998), National Center for Health Statistics (1998), and University of California, Riverside (1998).

Discussion of session entitled "1995 Census Test: Integrated Coverage Measurement Evaluations," Joint Statistical Meetings (1996).

"The Use of Multiple Imputation to Incorporate Auxiliary Variables into the Analysis of Clinical Trial Data," Joint Statistical Meetings (1996).

"The Use of Multiple Imputation to Calibrate Industry and Occupation Codes in Public-Use Samples from the 1970 and 1980 Censuses," University of Southern California (1995), University of California, Riverside (1995), Bureau of Labor Statistics (1998), George Mason University (1999), and National Center for Health Statistics (1999).

"Survival Analysis with Missing Covariates," Joint Statistical Meetings (1994).

"Logistic Regression with Missing Predictors," Joint Statistical Meetings (1993).

"Marker Models in Survival Analysis," UCLA (1993).

"Bootstrapping Repeated-Measures Models," UCLA (1992).

Discussion of dinner presentation on the bootstrap, Orange County Section, Southern California Chapter of the American Statistical Association (1990).

"Estimating the Census Undercount," Claremont Colleges Mathematics Colloquium (1990), UCLA (1990), RAND (1990), and a dinner meeting of the West Los Angeles Section of the Southern California Chapter of the American Statistical Association (1990).

"Some Applications of Multiple Imputation" Third Biennial Regenstrief Conference (1989).

"The Use of Imputed Probabilities for Missing Binary Data," Fifth Annual Research Conference, U.S. Bureau of the Census (1989), and UCLA (1989).

"Multiple Imputation of Industry and Occupation Codes for Public-Use Data Files," Joint Statistical Meetings (1988).

"Interval Estimation from Multiply-Imputed Data: A Case Study Using Census Agriculture Industry Codes," University of Maryland (1987), U.S. Bureau of the Census (1987), University of Chicago (1988), RAND (1988), UCLA (1988), and Northwestern University (1988).

"Handling Missing Data in the 1986 Test of Adjustment Related Operations," Joint Statistical Meetings (1987) and Harvard University (1987).

"Efficiently Simulating the Coverage Properties of Interval Estimates," Joint Statistical Meetings (1986).

"Multiple Imputation for Interval Estimation," Washington Statistical Society Seminar (1985) and University of Chicago (1985).

"Multiple Imputation Methods for Simple Random Samples," U.S. Bureau of the Census (1983).

"Bootstrap Confidence Intervals," Joint Statistical Meetings (1983), RAND (1983), and University of Chicago (1983).

"The Modified Gamma Approximation," CNA Insurance Company (1980).

**Teaching Experience**

Courses Taught

SURV770, "Survey Design Seminar," Joint Program in Survey Methodology (University of Maryland at College Park, University of Michigan, and Westat, Inc.), guest instructor in Fall 1999.

Biostatistics 100A, "Introduction to Biostatistics," UCLA, taught six times.

Biostatistics 100B, "Introduction to Biostatistics," UCLA, taught four times.

Biostatistics 207L, "Survey Nonresponse and Multiple Imputation," UCLA, taught once.

Biostatistics 212, "Distribution-Free Methods," UCLA, taught twice.

Biostatistics 232, "Statistical Analysis of Incomplete Data," UCLA, taught twice.

Biostatistics 240A, "Research Resources in Biostatistics," UCLA, taught once.

Biostatistics 240B, "Seminar for Second-Year Biostatistics Master's Students," UCLA, taught twice.

Biostatistics 245, "Advanced Seminar: Biostatistics," UCLA, taught six times.

Biostatistics 276, "Inferential Techniques that Use Simulation," UCLA, taught three times.

Biostatistics 404, "Principles of Sampling," UCLA, taught twice.

Biostatistics 405, "Demographic Materials and Methods," UCLA, taught three times.

Statistics 200, "Elementary Statistics," University of Chicago, taught once.

<u>Supervision of Graduate Students</u>

Doctoral Students Supervised:

Dongliang Zhuang, *Survival Analysis with Long-Term Survivors and Partially Observed Covariates*, UCLA, 1999.

Meehyung Cho, *Bayesian Analysis for the Accelerated Failure Time Model with Incomplete Covariate Data*, UCLA, 1998.

Xiangyi Meng, *Estimation and Testing for Failure Time Regression Models with Missing Predictors*, UCLA, 1996.

Carlos Gimenez Lazaro, *Small Sample Inference on Fixed Effects in Mixed Models*, UCLA, 1993 (co-chair of doctoral committee with R.J.A. Little).

Other Supervision of Students:

Served on twenty-two other doctoral dissertation committees at UCLA.

Supervised five students writing Master of Science papers at UCLA.