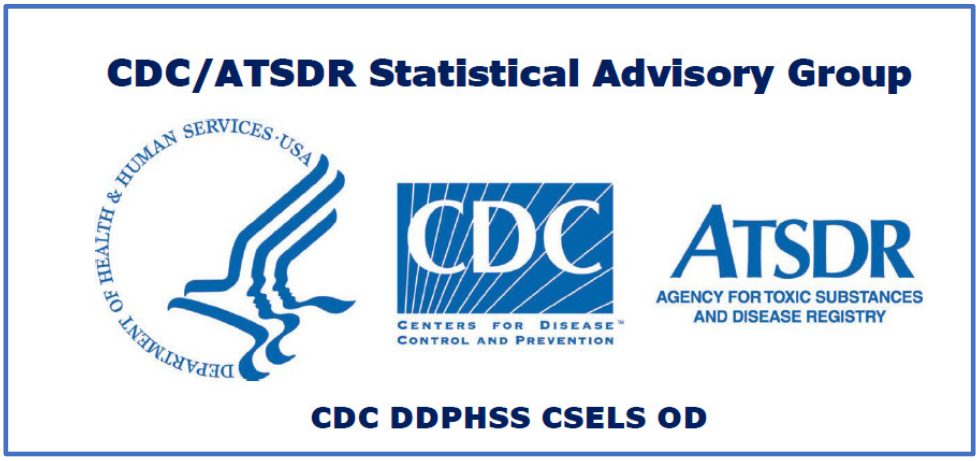

CDC/ATSDR Statistical Science Awards

The Statistical Advisory Group (SAG) sponsors the annual CDC & ATSDR Statistical Science Awards Program to recognize outstanding CDC/ATSDR-related scientific contributions made by statisticians at CDC and ATSDR, which involves an intensive review of nominated peer-reviewed publications written or co-written by CDC/ATSDR statisticians.

The awards date from 1987 and are recognized as career awards by CDC/ATSDR and are unique among CDC/ATSDR awards in that they explicitly and exclusively address the quality of statistical science by working statisticians at CDC/ATSDR and are driven exclusively by the judgment of peer-statisticians at CDC/ATSDR.

The winners, runners-up and other participants are recognized at a ceremony, typically held in the spring or summer of each year. The inclusion of a nationally prominent statistical speaker at the ceremony reinforces and addresses the importance of the quality of statistical science at CDC/ATSDR. The annual frequency of the awards cycle ensures a sustained and regular impact. The Statistical Science Awards recognize sustained, highly visible contributions to the promotion of scientific integrity and quality in the area of statistical theory and applications.

2021 Applied	**Rose CE**, Bertolli J, Attell JE, Moore CA, Melo F, Kotzky K, Krishna N, Satterfield-Nash A, Pereira IO, Pessoa A, Smith DC. Early Growth Parameters as Predictors of Developmental Delay among Children Conceived During the 2015–2016 Zika Virus Outbreak in Northeastern Brazil. *Tropical medicine and infectious disease. 2020 Dec;5(4):155.* PMID: 33019699 PMCID: PMC7709658 DOI: 10.3390/tropicalmed5040155
2021 Theoretical	Hepworth G, **Biggerstaff BJ**. Bias Correction in Estimating Proportions by Imperfect Pooled Testing. *Journal of Agricultural, Biological and Environmental Statistics. 2021 Mar;26(1):90-104.* PMCID: PMC6325642 DOI: 10.1007/s13253-017-0297-2
2020 Applied	Crider KS, **Devine O**, Qi YP, Yeung LF, Sekkarie A, Zaganjor I, Wong E, **Rose CE**, Berry RJ. Bayesian meta-analysis of the dose-response relationship between folic acid intake and changes in blood folate concentrations. *Nutrients* 2019; 11(71):1-14. PMID: 30609688 PMCID: PMC6356991 DOI: 10.3390/nu11010071
2020 Theoretical	**Li R**, **Stewart B**, **Rose C**. A Bayesian approach to sequential analysis in post-licensure vaccine safety surveillance. Pharmaceutical Statistics. 2020 May;19(3):291-302. PMID: 31867860 DOI: 10.1002/pst.1991
2019 Applied	**Gu W**, Dutta V, Patrick M, **Bruce BB**, Geissler A, Huang J, Fitzgerald C, Henao O. Statistical adjustment of culture-independent diagnostic tests for trend analysis in the Foodborne Diseases Active Surveillance Network (FoodNet), USA. *Int J Epidemiol*. 2018; 47(5):1613-1622. PMID: 29562259 DOI: https://doi.org/10.1093/ije/dyy041
2019 Theoretical	**Satten GA**, Kong M, Datta S. Multisample adjusted U-statistics that account for confounding covariates. *Stat Med*. 2018; 37(23):3357-3372. PMID: 29923344 PMCID: PMC6322553 DOI: https://doi.org/10.1002/sim.7825
2018 Applied	**Sternberg M**. Multiple imputation to evaluate the impact of an assay change in national surveys. Statistics in Medicine 2017; 36(17):2697-2719 PMID: 28419523 PMCID: PMC5701520 DOI: 10.1002/sim.7302
2018 Theoretical	Feng Z, **Hill AN**, Curns AT, Glasser JW. Evaluating targeted interventions via meta-population models with multi-level mixing. Mathematical Biosciences 2017; 287:93-104. PMID: 27671169 PMCID: PMC5723927 DOI: 10.1016/j.mbs.2016.09.013
2017 Applied	**Rossen LM**, **Khan D**, Schoendorf KC. Mapping geographic variation in infant mortality and related black-white disparities in the US. Epidemiology 2016;27(5):690-696. PMID: 27196804 PMCID: PMC5378167 DOI: 10.1097/EDE.0000000000000509
2017 Theoretical	Hu YJ, Liao P, Johnston HR, Allen AS, **Satten GA**. Testing rare-variant association without calling genotypes allows for systematic differences in sequencing between cases and controls. PLoS Genet 2016;12(5):e1006040. PMID: 27152526 PMCID: PMC4859496 DOI: 10.1371/journal.pgen.1006040
2016 Applied (tie)	**Hao Y**, Balluz L, Strosnider H, Jun Wen X, Li C, Qualters JR. Ozone, Fine Particulate Matter, and Chronic Lower Respiratory Disease Mortality in the United States. American Journal of Respiratory and Critical Care Medicine 2015;192(3):337-341. PMID: 26017067 PMCID: PMC4937454 DOI: 10.1164/rccm.201410-1852OC

	Gu W, Vieira AR, **Hoekstra RM**, Griffin PM, Cole D. Use of random forest to estimate population attributable fractions from a case-control study of Salmonella enterica serotype Enteritidis infections. Epidemiology and Infection 2015 Oct;143(13):2786-94. PMID: 25672399 DOI: 10.1017/S095026881500014X
2016 Theoretical	**Talih M**. Examining Socioeconomic Health Disparities Using a Rank-Dependent Rényi Index. Annals of Applied Statistics 2015;9(2):992-1023. PMID: 26566419 PMCID: PMC4641042 https://www.jstor.org/stable/24522612
2015 Applied	**Zhang X**, Holt JB, Lu H, Wheaton AG, Ford ES, Greenlund KJ, Croft JB. Multilevel Regression and Poststratification for Small-Area Estimation of Population Health Outcomes: A Case Study of Chronic Obstructive Pulmonary Disease Prevalence Using the Behavioral Risk Factor Surveillance System. Am J Epidemiol. 2014 Apr 15;179(8):1025-33. PMID: 24598867 DOI: 10.1093/aje/kwu018
2015 Theoretical	**Li R**, **Stewart B**, **Weintraub E**, McNeil MM. Continuous Sequential Boundaries for Vaccine Safety Surveillance. Stat Med. 2014 Aug 30;33(19):3387-97. PMID: 24691986 DOI: 10.1002/sim.6161
2014 Applied	**Samuels AM**, Clark EH, Galdos-Cardenas G, **Wiegand RE**, Ferrufino L, Menacho S, Gil J, Spicer J, Budde J, Levy MZ, Bozo RW, Gilman RH, Bern C; Working Group on Chagas Disease in Bolivia and Peru. Epidemiology of and Impact of Insecticide Spraying on Chagas Disease in Communities in the Bolivian Chaco. PLoS neglected tropical diseases 7.8 (2013): e2358. PMID: 23936581 PMCID: PMC3731239 DOI: 10.1371/journal.pntd.0002358
2014 Theoretical	Tang L, Lyles RH, Ye Y, Lo Y, **C. C. King**. Extended Matrix and Inverse Matrix Methods Utilizing Internal Validation Data When Both Disease and Exposure Status Are Misclassified. Epidemiologic Methods 2.1: 49-66. PMID: 25844304 PMCID: PMC4382468 DOI: 10.1515/em-2013-0008
2013 Applied	**G. Zhang**, **N. Schenker**, **J. D. Parker**. Identifying implausible gestational ages in preterm babies with Bayesian mixture models. Stat Med. 2013 May 30;32(12):2097-113. Epub 2012 Nov 4 PMID: 23124778 DOI: 10.1002/sim.5657
2013 Theoretical	**Y. Pan**, M. Haber, J. Gao, H. Barnhart. A new permutation-based method for assessing agreement between two observers making replicated quantitative readings. Statistics in Medicine 31.20 (2012): 2249-2261. PMID: 22415910 DOI: 10.1002/sim.5323
2012 Applied	**N. Schenker**, **L.G. Borrud**, **V.L. Burt**, **L.R. Curtin**, **K.M. Flegal**, **J. Hughes**, **C.L. Johnson**, **A.C. Looker**, **L. Mirel**. Multiple Imputation of Missing Dual-Energy X-Ray Absorptiometry Data in the National Health and Nutrition Examination Survey. Statistics in Medicine, 30, 260-276. PMID: 21213343 DOI: 10.1002/sim.4080
2012 Theoretical	N. Dendukuri, L. Wang, **A. Hadgu**. Evaluating Diagnostic Tests for Chlamydia trachomatis in the Absence of a Gold Standard: A Comparison of Three Statistical Methods. Statistics in Biopharmaceutical Research 3(2): 385-397. https://doi.org/10.1198/sbr.2011.10005
2011 Applied	**J.P. Boyle**, **T.J. Thompson**, **E.W. Gregg**, **L.E. Barker**, D.F. Williamson. Projection of the year 2050 burden of diabetes in the US adult population: dynamic modeling of

	incidence, mortality, and prediabetes prevalence. Popul Health Metr; 8:29. PMID: 20969750 PMCID: PMC2984379 DOI: 10.1186/1478-7954-8-29
2011 Theoretical	S. Datta, D. Bandyopadhyay, **G.A. Satten**. Inverse Probability of Censoring Weighted "U"-statistics for Right-Censored Data with an Application to Testing Hypotheses. Scandinavian Journal of Statistics; 37:4; 680-700. https://doi.org/10.1111/j.1467-9469.2010.00697.x
2010 Applied	A.S. Allen, **G.A. Satten**. A novel haplotype-sharing approach for genome-wide case-control association studies implicates the calpastatin gene in Parkinson's disease. Genet Epidemiol 2009;33(8):657-67 PMID: 19365859 PMCID: PMC4084873 https://doi.org/10.1002/gepi.20417
2010 Theoretical	N. Dendukuri, **A. Hadgu**, L. Wang. Modeling conditional dependence between diagnostic tests: a multiple latent variable model. Stat Med 2009;28(3):441-61 PMID: 19067379 https://doi.org/10.1002/sim.3470
2009 Applied	**P.J. Smith**, L.C. Marsh. Evaluating assumptions of weighting class methods for partial response using a selection model. Stat Med 2008;27(22):4569-80 PMID: 18613216 https://doi.org/10.1002/sim.3304
2009 Theoretical	**B.J. Biggerstaff**, D. Jackson. The exact distribution of Cochran's heterogeneity statistic in one-way random effects meta-analysis. Stat Med 2008;27(29):6093-110 PMID: 18781561 https://doi.org/10.1002/sim.3428
2008 Applied	T.E. Raghunathan, D. Xie, **N. Schenker**, **V.L. Parsons**, W.W. Davis, K.W. Dodd, E.J. Feuer. Combining Information From Two Surveys to Estimate County-Level Prevalence Rates of Cancer Risk Factors and Screening. Journal of the American Statistical Association, 102, 474-486 https://doi.org/10.1198/016214506000001293
2008 Theoretical	**C.A. Gotway**, L.J. Young. A Geostatistical Approach to Linking Geographically Aggregated Data from Different Sources. Journal of Computational & Graphical Statistics, Volume 16, Number 1, March 2007, pp. 115-135(21) https://doi.org/10.1198/106186007X179257
2007 Applied	**A.L. Baughman**, **K.M. Bisgard**, F. Lynn. B.D. Meade. Mixture model Analysis for establishing a diagnostic cut-off point for pertussis antibody levels. Stat Med. 2006 Sep 15; 25(17):2994-3010 PMID: 16345022 https://doi.org/10.1002/sim.2442
2007 Theoretical	Y. Park, **J.W. Choi**, H.Y. Kim. Forecasting Cause-Age Specific Mortality Using Two Random Processes. Journal of the American Statistical Association, 2006, vol. 101, pages 472-483 https://doi.org/10.1198/016214505000001249
2006 Applied	**B.L. Cadwell**, P.J. Smith, A.L. Baughman. Methods for capture-recapture analysis when cases lack personal identifiers. Statistics in Medicine 2005;24:2041-2051 PMID: 15816012 https://doi.org/10.1002/sim.2081
2006 Theoretical	A.S. Allen, **G.A. Satten**, A.A. Tsiatis. Locally-efficient robust estimation of haplotype-disease association in family-based studies. Biometrika 2005; 92:559-571 https://doi.org/10.1093/biomet/92.3.559

2005 Applied **G.A. Satten**, S. Datta, H. Moura, A.R. Woolfitt, M. da G. Carvalho, G.M. Carlone, B.K. De, A. Pavlopoulos, J.R. Barr. Standardisation and denoising algorithms for mass spectra to classify whole-organism bacterial specimens. Bioinformatics 2004; 20(17): 3128-3136 https://doi.org/10.1093/bioinformatics/bth372

2005 Theoretical **Satten GA**, Kong F, Wright DJ, Glynn SA, Schreiber GB. How special is a 'special' interval: Modeling departure from length-biased sampling in renewal processes. Biostatistics 2004;5(1);145-151 PMID: 14744833 https://doi.org/10.1093/biostatistics/5.1.145

2004 Applied R. L. Smith, S. Kolenikov, **L. H. Cox**. Spatiotemporal modeling of PM2.5 data with missing values. J. Geophys. Res., 108, 9004, D24. https://doi.org/10.1029/2002JD002914

2004 Theoretical **J. M. Williamson**, **G. A. Satten**, S. Datta. Marginal Analyses of Clustered Data When Cluster Size is Informative. Biometrics 59:36-42 (2003) PMID: 12762439 https://doi.org/10.1111/1541-0420.00005

2003 Applied B. Nandram, G. Han, **J. W. Choi**. A Hierarchical Bayesian Nonignorable Nonresponse Model for Multinomial Data from Small Areas. Survey Methodology. 28(2):145-156 https://www150.statcan.gc.ca/n1/pub/12-001-x/2002002/article/6428-eng.pdf

2003 Theoretical M. L. Thompson, **L. H. Cox**, P. D. Sampson, D. C. Caccia. Statistical Hypothesis Testing Formulations for U.S. Environmental Regulatory Standards for Ozone. Environmental and Ecological Statistics 9:321-339 (2002) https://doi.org/10.1023/A:1020930621920

2003 Theoretical C. L. Faucett, **N. Schenker**, J. M. G. Taylor. Survival Analysis Using Auxiliary Variables Via Multiple Imputation, with Application to AIDS Clinical Trial Data. Biometrics 58:37-47 (2002) https://doi.org/10.1111/j.0006-341X.2002.00037.x

2002 Applied **J. M. Williamson**, **G. A. Satten**, **J. A. Hanson**, **H. Weinstock**, **S. Datta**. Analysis of Dynamic Cohort Data. Am J Epid 154:366-372 (2001) PMID: 11495860 https://doi.org/10.1093/aje/154.4.366

2002 Theoretical **M. Cho**, N. Schenker, J. M. G. Taylor, D. Zhuang. Survival Analysis With Long-Term Survivors and Partially Observed Covariates. Canadian J Stat 29:421-436 (2001) https://doi.org/10.2307/3316038 https://www.jstor.org/stable/3316038

2001 Applied **K. N. Steenland**, I. Bray, S. Greenland, P. Bofetta. Empirical Bayes Adjustments For Multiple Results In Hypothesis-Generating Or Surveillance Studies. Cancer Epidemiol Biomarkers Prev 9(9):895-903 PMID: 11008906 http://cebp.aacrjournals.org/content/9/9/895.full

2001 Theoretical **G. A. Satten**, S. Datta. The S-U Algorithm for Missing Data Problems. Computational Statistics 15:243-277 https://doi.org/10.1007/s001800000031

2000 Applied **J. T. Wassell, W. C. Wojciechowski, D. D. Landen**. Recurrent Injury Event Time Analysis. Stat Med 18(23):3355-3363 (Dec. 15 1999) PMID: 10602157 https://doi.org/10.1002/(SICI)1097-0258(19991215)18:23<3355::AID-SIM322>3.0.CO;2-3

2000 Theoretical	**G. A. Satten**, **M. Sternberg**. Fitting Semi-Markov Models To Interval-Censored Data With Unknown Initiation Times. Biometrics 55(2):507-513 (June 1999) PMID: 11318207 https://www.jstor.org/stable/2533799
1999 Applied	**T. J. Thompson**, P. J. Smith, J. P. Boyle. Finite Mixture Models With Concomitant Information: Assessing Diagnostic Criteria For Diabetes. Applied Statistics 47(3):393-404 https://www.jstor.org/stable/2986105
1999 Theoretical	**G. A. Satten**, S. Datta, **J. M. Williamson**. Inference Based On Imputed Failure Times for the Proportional Hazards Model with Interval-Censored Data. J Am Stat Assn 93:318-327 https://doi.org/10.2307/2669628 https://www.jstor.org/stable/2669628
1998 Applied	**P. J. Smith, T. J. Thompson, J. A. Jereb**. A Model For Interval-Censored Tuberculosis Outbreak Data. Stat Med 16(5):485-496 (Mar 15 1997) PMID: 9089957 https://doi.org/10.1002/(SICI)1097-0258(19970315)16:5<485::AID-SIM422>3.0.CO;2-%23
1998 Theoretical	R. Song, **S. A. Shulman**. Variance Components In The Two-Way Nested Model With Incomplete Nesting Information. Technometrics 39(1):71-80 (1997) https://doi.org/10.2307/1270774 https://www.jstor.org/stable/1270774
1997 Applied	**G. A. Satten**, I. M. Longini, Jr. Markov Chains With Measurement Error: Estimating The 'True' Course of a Marker of HIV Disease Progression. Applied Statistics 45:275-309 https://doi.org/10.2307/2986089 https://www.jstor.org/stable/2986089
1997 Theoretical	**G. A. Satten**. Rank-Based Inference in the Proportional Hazards Model for Interval Censored Data. Biometrika 83:355-370 https://www.jstor.org/stable/2337606
1996 Applied	K. F. Schulz, I. Chalmers, R. J. Hayes, D. G. Altman. Empirical Evidence of Bias: Dimensions of Methodological Quality Associated With Estimates Of Treatment Effects In Controlled Trials. JAMA 273(5):408-412 (Feb 1 1995) PMID: 7823387 https://doi.org/10.1001/jama.1995.03520290060030
1996 Theoretical	**D. Malec**. Selecting Multiple-Objective Fixed-Cost Sample Designs Using An Admissibility Criterion. J Statistical Planning and Inference 48:229-240 (1995) https://doi.org/10.1016/0378-3758(94)00153-M
1995 Applied	L. R. Petersen, **G. A. Satten**, R. Dodd, M. Busch, S. Kleinman, A. Grindan, B. Lenes. Duration of Time From Onset of Human Immunodeficiency Virus Type I Infectiousness To Development of Detectable Antibody. The HIV Seroconversion Study Group Transfusion 34(4):283-289 (April 1994) PMID: 8178324 https://doi.org/10.1046/j.1537-2995.1994.34494233574.x
1995 Theoretical	**G. A. Satten**, I. M. Longini, Jr. Estimation of Incidence of (H)IV Infection Using Cross-Sectional Marker Surveys. Biometrics 50:675-688 (1994) PMID: 7981394 DOI: 10.2307/2532782 https://www.jstor.org/stable/2532782
1994 Single category	**P. J. Smith**, D. F. Heitjan. Testing And Adjusting For Departures From Normal Dispersion In Generalized Linear Models. Applied Statistics 42:31-41 (1993) DOI: 10.2307/2347407 https://www.jstor.org/stable/2347407 (PMID/PMCID not found)

1993 Single category	**S. P. Caudill**, J. L. Pirkle, J. E. Michalek. Effects Of Measurement Error On Estimating Biological Half-Life. J Expo Anal Environ Epidemiol 2(4):463-476 (Oct. 1992) PMID: 1483030 (doi not found)
1992 Single category	R. H. Shumway, **M. J. Katzoff**. Adjustment Of Provisional Mortality Series: The Dynamic Linear Model With Structured Measurement Errors. J Am Stat Assn 86:611-617 (1991) PMID: 12155390 DOI: 10.2307/2290389 https://www.jstor.org/stable/2290389
1991 Single category	K. J. Lui, B. Martinez, J. A. Mercy. An Application of the Empirical Bayes Approach to Directly Adjusted Rates: A Note On Suicide Mapping In California Suicide. Life Threat Behav 20(3):240-253 (Fall 1990) PMID: 2238016 https://doi.org/10.1111/j.1943-278X.1990.tb00108.x
1991 Single category	L. E. Markowitz, J. Sepulveda, J. L. Diaz-Ortega, J. L. Valdespino, P. Albrecht, E. R. Zell, J. A. Stewart, M. L. Zarate, R. H. Bernier. Immunization of Six-Month-Old Infants With Different Doses of Edmonston-Zagreb and Schwarz Measles Vaccines. N Eng J Med 322(9):580-587 (1 March 1990) PMID: 2304505 DOI: 10.1056/NEJM199003013220903
1990 Single category	**J. W. Choi**, R. B. McHugh. A Reduction Factor In Goodness-Of-Fit And Independence Tests for Clustered and Weighted Observations. Biometrics 45:979-996 (1989) PMID: 2790132 DOI: 10.2307/2531697
1989 Applied	**D. F. Stroup**, S. B. Thacker, J. L. Herndon. Application of Multiple Time Series Analysis to the Estimation of Pneumonia and Influenza Mortality By Age. Statistics in Medicine 7:1045-1059 (1988) PMID: 3264612 https://doi.org/10.1002/sim.4780071006
1989 Theoretical	R. A. Parker, R. B. Rothenberg. Identifying Important Results From Multiple Statistical Tests. Statistics in Medicine 7:1031-1043 (1988) PMID: 3206001 https://doi.org/10.1002/sim.4780071005
1988 Applied	R. W. Hornung, T. J. Meinhardt. Quantitative Risk Assessment of Lung Cancer In U.S. Uranium Miners. Health Physics 52(4):417-430 (1987) PMID: 3032855 DOI: 10.1097/00004032-198704000-00002
1988 Theoretical	W. D. Flanders, P. H. Rhodes. Large Sample Confidence Intervals For Regression Standardized Risks, Risk Ratios, and Risk Differences. J Chronic Diseases 40:697-704 (1987) PMID: 3597672 https://doi.org/10.1016/0021-9681(87)90106-8
1987 Applied	K. J. Lui, D. N. Laurence, W. M. Morgan, T. A. Peterman, H. W. Haverkos, D. J. Bregman. A Model-Based Approach For Estimating The Mean Incubation Period of Transfusion-Associated Acquired Immunodeficiency Syndrome. Proceedings of the National Academy of Sciences 83:3051-3055 (1986) PMID: 3458163 PMCID: PMC323449 https://doi.org/10.1073/pnas.83.10.3051
1987 Theoretical	R. A. Parker, D. J. Bregman. Sample Size for Individually Matched Case-Control Studies. Biometrics 42:919-926 (1986). PMID: 3814732 https://doi.org/10.2307/2530705 https://www.jstor.org/stable/2530705