

# Curriculum Vitae

Andrew Gelman

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## Education

Harvard University, 1986–1990. M.A., statistics, 1987. Ph.D., statistics, 1990. Thesis: Topics in image reconstruction for emission tomography.

Massachusetts Institute of Technology, 1982–1986. S.B., mathematics, 1985. S.B., physics, 1986.

## Positions

Higgins Professor of Statistics, Columbia University, 2017–present.

Professor, Department of Political Science, Columbia University, 2002–present.

Professor, Department of Statistics, Columbia University, 2000–present.

Visiting Professor, Department of Statistics, Harvard University, 2008–present.

Alliance Visiting Professor, Sciences Po, Paris, 2009–2010.

Founding Director, Applied Statistics Center, Columbia University, 2006–present.

Faculty Fellow, Institute for Social and Economic Research and Policy, Columbia University, 1999–present.

Founding Director, Quantitative Methods in Social Sciences program, Columbia University, 1998–2002.

Associate Professor, Department of Statistics, Columbia University, 1996–2000.

Visiting Assistant Professor, Department of Statistics, University of Chicago, 1994.

Assistant Professor, Department of Statistics, University of California, Berkeley, 1990–1996.

Technical Associate, AT&T Bell Laboratories, summers, 1985–1986.

## Honors and awards

- 2018 Hedges Lecture for the Society of Research on Educational Effectiveness: “Evidence-based practice is a two-way street.”
- 2017 Article “The statistical crisis in science: How is it relevant to clinical neuropsychology?” chosen for the Continuing Education program of the American Academy of Clinical Neuropsychology. (Andrew Gelman and Hilde Geurts)
- 2016 DeGroot Prize from the International Society of Bayesian Analysis for *Bayesian Data Analysis*, third edition. (Andrew Gelman, John B. Carlin, Hal S. Stern, David B. Dunson, Aki Vehtari, Donald B. Rubin).
- 2016 Article “Why acknowledging uncertainty can make you a better scientist” chosen for *The Best Writing on Mathematics 2016*.
- 2015 Article “The statistical crisis in science” chosen for *The Best Writing on Mathematics 2015*. (Andrew Gelman and Eric Loken)
- 2014 Statistician of the Year, Chicago chapter of the American Statistical Association.
- 2014 Elected member, International Statistical Institute.
- 2012 Open Source Software World Challenge award for Stan: An R and C++ package for Bayesian sampling. (Andrew Gelman, Bob Carpenter, Matt Hoffman, Daniel Lee, Michael Malecki, Ben Goodrich, Michael Betancourt, Marcus Brubaker, and Jiqiang Guo)
- 2011 Blog of the Year award from *The Week* for the Monkey Cage. (John Sides, Henry Farrell, Andrew Gelman, Joshua Tucker, and Erik Voeten)
- 2010 Mitchell Lecturer, Department of Statistics, University of Glasgow.
- 2008 Mitchell Prize from the International Society of Bayesian Analysis for “How many people do you know in prison?: Using overdispersion in count data to estimate social structure in networks.” (Tian Zheng, Matthew Salganik, and Andrew Gelman)
- 2008 Outstanding Statistical Application award from the American Statistical Association for “How many people do you know in prison?: Using overdispersion in count data to estimate social structure in networks.” (Tian Zheng, Matthew Salganik, and Andrew Gelman)
- 2006 Otis Dudley Duncan Honorary Lecture for the American Sociological Association: “Bayesian inference and multilevel modeling.”
- 2004 Miller Prize for the best work appearing in *Political Analysis*, for “Bayesian multilevel estimation with poststratification: State-level estimates from national polls.” (David K. Park, Andrew Gelman, and Joseph Bafumi)
- 2003 Committee of Presidents of Statistical Societies (COPSS) Presidents’ award for outstanding contributions to statistics by a person under the age of 40.
- 2000 Outstanding Statistical Application award from the American Statistical Association for “Not asked and not answered: multiple imputation for multiple surveys.” (Andrew Gelman, Gary King, and Chuanhai Liu)
- 2000 Special Invited Lecture for the Institute of Mathematical Statistics: “Analysis of variance: Why it is more important than ever.”

- 1998 Elected Fellow, American Statistical Association.
- 1998 Outstanding Statistical Application award from the American Statistical Association for “Physiological pharmacokinetic analysis using population modeling and informative prior distributions.” (Andrew Gelman, Frederic Y. Bois, and Jiming Jiang)
- 1998 Article “Not asked and not answered: Multiple imputation for multiple surveys” chosen as the annual *Journal of the American Statistical Association* special invited discussion paper. (Andrew Gelman, Gary King, and Chuanhai Liu)
- 1998 Article “General methods for monitoring convergence of iterative simulations” chosen for the “Best of *Journal of Computational and Graphical Statistics*” session at the annual Interface meeting. (Stephen Brooks and Andrew Gelman)
- 1997 Elected Fellow, Institute of Mathematical Statistics.
- 1995 Heinz Eulau Award from the American Political Science Association for the best article published in the *American Political Science Review*, for “Enhancing Democracy Through Legislative Redistricting.” (Andrew Gelman and Gary King)
- 1994 National Science Foundation Young Investigator Award.
- 1992 American Political Science Association research software award, for “JudgeIt: a program for evaluating electoral systems and redistricting plans.” (Andrew Gelman and Gary King)
- 1992 Pi Sigma Alpha award for the best paper presented at the annual meeting of the Midwest Political Science Association, for “Why do Presidential election campaign polls vary so much when the vote is so predictable?” (Andrew Gelman and Gary King)

### **Principal investigator on research grants**

- 2017–2020 National Science Foundation grant, “Stan for the long run.” (Bob Carpenter and Andrew Gelman)
- 2017–2020 Office of Naval Research grant, “Causal inference using hierarchical and nonparametric Bayesian interaction models.” (Andrew Gelman and Jennifer Hill)
- 2015–2018 National Science Foundation grant, “Multilevel regression and poststratification: A unified framework for survey weighted inference.” (Yajuan Si and Andrew Gelman)
- 2015–2018 Sloan Foundation grant, “Stan.” (Andrew Gelman, Bob Carpenter, Michael Betancourt, and Daniel Lee)
- 2015–2018 Office of Naval Research grant, “Informative priors for Bayesian inference and regularization.” (Andrew Gelman)
- 2014–2017 Institute of Education Sciences grant, “Solving difficult Bayesian computation problems in education research using Stan.” (Andrew Gelman, Bob Carpenter, and Sophia Rabe-Hesketh)
- 2014–2017 National Science Foundation grant, “Using multilevel regression and poststratification to measure and study dynamic public opinion.” (Justin Phillips, Andrew Gelman, and Jeffrey Lax)
- 2012–2015 National Science Foundation grant, “Stan: A computing framework for Bayesian modeling.” (Andrew Gelman, Bob Carpenter, and Matt Hoffman)

- 2012–2017 Institute of Education Sciences grant, “NYU/Columbia quantitative postdoctoral training program.” (Andrew Gelman and Jennifer Hill)
- 2010–2013 National Science Foundation grant, “Latent space models for aggregated relational data in social sciences.” (Tian Zheng and Andrew Gelman)
- 2010–2012 National Science Foundation grant, “Understanding public opinion and policymaking using multilevel regression and poststratification.” (Justin Phillips, Andrew Gelman, and Jeffrey Lax)
- 2010–2013 Institute of Education Sciences grant, “Practical tools for multilevel/hierarchical modeling in education research.” (Andrew Gelman, Sophia Rabe-Hesketh, and Jingchen Liu)
- 2009–2012 Department of Energy grant, “Petascale hierarchical modeling via parallel execution,” (Andrew Gelman, Viral Shah, Alan Edelman, and Chad Scherrer)
- 2009–2011 National Security Agency grant, “Weakly informative priors.” (Andrew Gelman)
- 2009–2012 National Science Foundation grant, “Reconstructing climate from tree ring data.” (Andrew Gelman, Matthew Schofield, Upmanu Lall, and Ed Cook)
- 2009–2012 Institute of Education Sciences grant, “Practical solutions for missing data.” (Andrew Gelman and Jennifer Hill)
- 2007–2008 Yahoo research grant, “Purple America.” (Andrew Gelman)
- 2006–2009 National Institutes of Health grant, “Bayesian analysis of serial dilution assays.” (Andrew Gelman, Ginger Chew, and Matt Perzanowski)
- 2005–2008 National Science Foundation grant, “Design and analysis of ‘How many X’s do you know’ surveys for the study of polarization in social networks.” (Andrew Gelman, Tian Zheng, Thomas DiPrete, and Julien Teitler)
- 2003–2006 National Science Foundation grant, “Multilevel modeling for the analysis of public opinion and voting.” (Andrew Gelman)
- 2000–2003 National Science Foundation grant, “Combining expert judgments for environmental risk analysis.” (James Hammitt, Robert Clemen, Andrew Gelman, John Evans, and Roger Cooke)
- 2000–2003 National Science Foundation grant, “Bayesian analysis of sample surveys.” (Andrew Gelman and John B. Carlin)
- 1997–2000 National Science Foundation grant, “Models and model checking for spatially-varying environmental hazards and decision problems.” (Andrew Gelman and Phillip N. Price)
- 1994–1997 National Science Foundation grant, “Using inference from iterative simulation to improve efficiency of simulations.” (Andrew Gelman and Donald B. Rubin)
- 1993–1995 National Science Foundation grant, “Generalizing multiple imputation for a time series of surveys, with application to Presidential election campaign polls and evaluating electoral systems and redistricting plans.” (Gary King and Andrew Gelman)
- 1992–1993 University of California, Berkeley, Junior Faculty Research Grant.
- 1990–1993 National Science Foundation mathematical sciences postdoctoral fellowship.

## Books

- 2017 *Teaching Statistics: A Bag of Tricks*, second edition. Oxford University Press. (Andrew Gelman and Deborah Nolan).
- 2013 *Bayesian Data Analysis*, third edition. London: CRC Press. (Andrew Gelman, John B. Carlin, Hal S. Stern, David B. Dunson, Aki Vehtari, Donald B. Rubin).
- 2008 *Red State, Blue State, Rich State, Poor State: Why Americans Vote the Way They Do*. Princeton University Press. (Andrew Gelman, David Park, Boris Shor, Joseph Bafumi, and Jeronimo Cortina). Expanded edition, 2009.
- 2007 *Data Analysis Using Regression and Multilevel/Hierarchical Models*. Cambridge University Press. (Andrew Gelman and Jennifer Hill).
- 2003 *Bayesian Data Analysis*, second edition. London: CRC Press. (Andrew Gelman, John B. Carlin, Hal S. Stern, and Donald B. Rubin).
- 2002 *Teaching Statistics: A Bag of Tricks*. Oxford University Press. (Andrew Gelman and Deborah Nolan).
- 1995 *Bayesian Data Analysis*. London: Chapman and Hall. (Andrew Gelman, John B. Carlin, Hal S. Stern, and Donald B. Rubin).

## Books edited

- 2011 *Handbook of Markov Chain Monte Carlo*. London: CRC Press. (ed. Stephen Brooks, Andrew Gelman, Galin Jones, and Xiao-Li Meng)
- 2009 *A Quantitative Tour of the Social Sciences*. Cambridge University Press. (ed. Andrew Gelman and Jeronimo Cortina)
- 2004 *Applied Bayesian Modeling and Causal Inference from Incomplete-Data Perspectives*. New York: Wiley. (ed. Andrew Gelman and Xiao-Li Meng)

## Articles

- 2018 Large scale replication projects in contemporary psychological research. *American Statistician*. (Jennifer L. Tackett, Blakeley B. McShane, Ulf Bockenholt, and Andrew Gelman)
- 2018 Abandon statistical significance. *American Statistician*. (Blakeley B. McShane, David Gal, Andrew Gelman, Christian Robert, and Jennifer L. Tackett)
- 2018 Ethics in statistical practice and communication: Five recommendations. *Significance*. (Andrew Gelman)
- 2018 Bayesian inference under cluster sampling with probability proportional to size. *Statistics in Medicine*. (Susanna Makela, Yajuan Si, and Andrew Gelman)
- 2018 Yes, but did it work?: Evaluating variational inference. *Proceedings of the 35th International Conference on Machine Learning*. (Yuling Yao, Aki Vehtari, Daniel Simpson, and Andrew Gelman)

- 2018 Why high-order polynomials should not be used in regression discontinuity designs. *Journal of Business and Economic Statistics*. (Andrew Gelman and Guido Imbens)
- 2018 Gaydar and the fallacy of decontextualized measurement. *Sociological Science*. (Andrew Gelman, Greggor Mattson, and Daniel P. Simpson)
- 2018 Global shifts in the phenological synchrony of species interactions over recent decades. *Proceedings of the National Academy of Sciences*. (Heather M. Kharouba, Johan Ehrlén, Andrew Gelman, Kjell Bolmgren, Jenica M. Allen, Steve E. Travers, and Elizabeth M. Wolkovich)
- 2018 The Millennium Villages Project: A retrospective, observational, endline evaluation. *Lancet Global Health* **6**. (Shira Mitchell, Andrew Gelman, Rebecca Ross, Joyce Chen, Sehrish Bari, Uyen Kim Huynh, Matthew W. Harris, Sonia Ehrlich Sachs, Elizabeth A. Stuart, Avi Feller, Susanna Makela, Alan M. Zaslavsky, Lucy McClellan, Seth Ohemeng-Dapaah, Patricia Namakula, Cheryl A. Palm, and Jeffrey D. Sachs)
- 2018 Don't calculate post-hoc power using observed estimate of effect size. *Annals of Surgery*. (Andrew Gelman)
- 2018 Visualization in Bayesian workflow (with discussion). *Journal of the Royal Statistical Society A*. (Jonah Gabry, Daniel Simpson, Aki Vehtari, Michael Betancourt, and Andrew Gelman)
- 2018 Disentangling bias and variance in election polls. *Journal of the American Statistical Association*. (Houshmand Shirani-Mehr, David Rothschild, Sharad Goel, and Andrew Gelman)
- 2018 Don't characterize replications as successes or failures. Discussion of "Making replication mainstream," by Rolf A. Zwaan et al. *Behavioral and Brain Sciences*. (Andrew Gelman)
- 2018 Using stacking to average Bayesian predictive distributions (with discussion). *Bayesian Analysis*. (Yuling Yao, Aki Vehtari, Daniel Simpson, and Andrew Gelman)
- 2018 Review of *New Explorations into International Relations: Democracy, Foreign Investment, Terrorism, and Conflict*, by Seung-Wan Choi. *Perspectives on Politics*. (Andrew Gelman)
- 2018 Benefits and limitations of randomized controlled trials. Discussion of "Understanding and misunderstanding randomized controlled trials," by Angus Deaton and Nancy Cartwright. *Social Science & Medicine*. (Andrew Gelman)
- 2018 The failure of null hypothesis significance testing when studying incremental changes, and what to do about it. *Personality and Social Psychology Bulletin* **44**, 16–23. (Andrew Gelman)
- 2018 Bayesian aggregation of average data: An application in drug development. *Annals of Applied Statistics*. (Sebastian Weber, Andrew Gelman, Daniel Lee, Michael Betancourt, Aki Vehtari, and Amy Racine-Poon)
- 2018 How to think scientifically about scientists' proposals for fixing science. *Socius*. (Andrew Gelman)
- 2018 Learning from and responding to statistical criticism. *Observational Studies*. (Andrew Gelman)
- 2018 Donald Rubin. In *Encyclopedia of Social Research Methods*, ed. Paul Atkinson, Sara Delamont, Melissa Hardy, and Malcolm Williams. Thousand Oaks, Calif.: Sage Publications. (Andrew Gelman)
- 2017 The prior can often only be understood in the context of the likelihood. *Entropy* **19**, 555. (Andrew Gelman, Daniel Simpson, and Michael Betancourt)

- 2017 Practical Bayesian model evaluation using leave-one-out cross-validation and WAIC. *Statistics and Computing* **27**, 1413–1432. (Aki Vehtari, Andrew Gelman, and Jonah Gabry)
- 2017 19 things we learned from the 2016 election (with discussion and rejoinder). *Statistics and Public Policy* **4**. (Andrew Gelman and Julia Azari)
- 2017 Exploring the relationships between USMLE performance and disciplinary action in practice: A validity study of score inferences from a licensure examination. *Academic Medicine* **92**, 1780–1785. (Monica M. Cuddy, Aaron Young, Andrew Gelman, David B. Swanson, David A. Johnson, Gerard F. Dillon, and Brian E. Clauser)
- 2017 Some natural solutions to the p-value communication problem—and why they won’t work. *Journal of the American Statistical Association* **112**, 899–901. (Andrew Gelman and John Carlin)
- 2017 Beyond subjective and objective in statistics (with discussion and rejoinder). *Journal of the Royal Statistical Society A* **180**, 967–1033. (Andrew Gelman and Christian Hennig)
- 2017 Measurement error and the replication crisis. *Science* **355**, 584–585. (Eric Loken and Andrew Gelman)
- 2017 Honesty and transparency are not enough. *Chance* **30** (1), 37–39. (Andrew Gelman)
- 2017 Stan: A probabilistic programming language. *Journal of Statistical Software* **76** (1). (Bob Carpenter, Andrew Gelman, Matt Hoffman, Daniel Lee, Ben Goodrich, Michael Betancourt, Marcus Brubaker, Jiqiang Guo, Peter Li, and Allen Riddell)
- 2017 Consensus Monte Carlo using expectation propagation. *Brazilian Journal of Probability and Statistics* **31**, 692–696. (Andrew Gelman and Aki Vehtari)
- 2017 The 2008 election: A preregistered replication analysis. *Statistics and Public Policy* **4**. (Rayleigh Lei, Andrew Gelman, and Yair Ghitza)
- 2017 The statistical crisis in science: How is it relevant to clinical neuropsychology? *Clinical Neuropsychologist* **31**, 1000–1014. (Andrew Gelman and Hilde Geurts)
- 2017 Automatic differentiation variational inference *Journal of Machine Learning Research* **18**, 1–45. (Alp Kucukelbir, Dustin Tran, Rajesh Ranganath, Andrew Gelman, and David M. Blei)
- 2017 Type M error might explain Weisburd’s Paradox. *Journal of Quantitative Criminology*. (Andrew Gelman, Torbjørn Skardhamar, and Mikko Aaltonen)
- 2017 Learning about networks using sampling. *Journal of Survey Statistics and Methodology* **5**, 22–28. (Andrew Gelman)
- 2017 Fitting Bayesian item response models in Stata and Stan. *Stata Journal* **17**, 343–357. (Robert Grant, Daniel Furr, Bob Carpenter, and Andrew Gelman)
- 2016 Questionable association between front boarding and air rage. *Proceedings of the National Academy of Sciences* **113**, E7348. (Marcus Crede, Andrew Gelman, and Carol Nickerson)
- 2016 Age-aggregation bias in mortality trends. *Proceedings of the National Academy of Sciences* **113**, E816–E817. (Andrew Gelman and Jonathan Auerbach)
- 2016 A Bayesian bird’s eye view of ‘Replications of important results in social psychology.’ *Royal Society Open Science* **4**: 160426. (Maarten Marsman, Felix Schoonbrodt, Richard Morey, Yuling Yao, Andrew Gelman, and Eric-Jan Wagenmakers)

- 2016 Commentary on “Crisis in science? Or Crisis in statistics! Mixed messages in statistics with impact on science,” by Donald A. S. Fraser and Nancy M. Reid. *Journal of Statistical Research* **48–50**, 11–12. (Andrew Gelman)
- 2016 High-frequency polling with non-representative data. In *Political Communication in Real Time: Theoretical and Applied Research Approaches*, 89–105. (Andrew Gelman, Sharad Goel, David Rothschild, and Wei Wang)
- 2016 Increasing transparency through a multiverse analysis. *Perspectives on Psychological Science* **11**, 702–712. (Sara Steegen, Francis Tuerlinckx, Andrew Gelman, and Wolf Vanpaemel)
- 2016 The problems with p-values are not just with p-values. *American Statistician*. (Andrew Gelman)
- 2016 Will public opinion about inequality be packaged into neatly partisan positions? *Pathways*, Winter, 27–32. (Andrew Gelman and Leslie McCall)
- 2016 The mythical swing voter. *Quarterly Journal of Political Science* **11**, 103–130. (Andrew Gelman, Sharad Goel, Douglas Rivers, and David Rothschild)
- 2016 Graphical visualization of polling results. In *Oxford Handbook on Polling and Polling Methods*, ed. Lonna Atkeson and Michael Alvarez. (Susanna Makela, Yajuan Si, and Andrew Gelman)
- 2015 Automatic variational inference in Stan. *Neural Information Processing Systems*. (Alp Kucukelbir, Rajesh Ranganath, Andrew Gelman, and David Blei)
- 2015 A model-based approach to climate reconstruction using tree-ring data. *Journal of the American Statistical Association* **111**, 93–106. (Matthew Schofield, Richard Barker, Andrew Gelman, Edward Cook, and Keith Briffa)
- 2015 The state of the art in causal inference: Some changes since 1972. *Observational Studies* **1**, 182–183. (Andrew Gelman)
- 2015 Incorporating the sampling design in weighting adjustments for panel attrition. *Statistics in Medicine* **34**, 3637–3647. (Qixuan Chen, Andrew Gelman, Melissa Tracy, Fran H. Norris, and Sandro Galea)
- 2015 Stan: A probabilistic programming language for Bayesian inference and optimization. *Journal of Educational and Behavioral Statistics* **40**, 530–543. (Andrew Gelman, Daniel Lee, and Jiqiang Guo)
- 2015 Moving forward in statistics education while avoiding overconfidence. Discussion of “Mere Renovation is Too Little Too Late: It’s Time to Rebuild the Undergraduate Curriculum from the Ground Up,” by George Cobb. *American Statistician* **69**. (Andrew Gelman and Eric Loken)
- 2015 Political attitudes in social environments. Discussion of “Political diversity will improve social psychological science,” by Jose Duarte et al. *Behavioral and Brain Sciences* **38**, 26–27. (Neil Gross and Andrew Gelman)
- 2015 Simulation-efficient shortest probability intervals. *Statistics and Computing* **25**, 809–819. (Ying Liu, Andrew Gelman, and Tian Zheng)
- 2015 Statistics and the crisis of scientific replication. *Significance* **12** (3), 39–41. (Andrew Gelman)



- 2015 How is ethics like logistic regression? Ethics decisions, like statistical inferences, are informative only if they're not too easy or too hard. *Chance* **28** (2), 31–33. (Andrew Gelman and David Madigan)
- 2015 Statistics and research integrity. *European Science Editing* **41** (1), 13–14. (Andrew Gelman)
- 2015 Regression: What's it all about? Review of *Bayesian and Frequentist Regression Methods*, by Jon Wakefield. *Statistics in Medicine*. (Andrew Gelman)
- 2015 Evidence on the deleterious impact of sustained use of polynomial regression on causal inference. *Research and Politics* **2**, 1–7. (Andrew Gelman and Adam Zelizer)
- 2015 Bayesian nonparametric weighted sampling inference. *Bayesian Analysis* **10**, 605–625.. (Yajuan Si, Natesh Pillai, and Andrew Gelman)
- 2015 Centralized analysis of local data, with dollars and lives on the line: Lessons from the home radon experience. In *Data Science for Politics, Policy and Government*, ed. R. Michael Alvarez. Cambridge University Press. (Phillip N. Price and Andrew Gelman)
- 2015 American democracy and its critics. Review of *American Democracy*, by Andrew Perrin. *American Journal of Sociology* **120**, 1562–1564. (Andrew Gelman)
- 2015 Disagreements about the strength of evidence. *Chance* **28**, 55–59. (Andrew Gelman)
- 2015 The connection between varying treatment effects and the crisis of unreplicable research: A Bayesian perspective. *Journal of Management* **41**, 632–643. (Andrew Gelman)
- 2015 Forecasting elections with non-representative polls. *International Journal of Forecasting* **31**, 980–991. (Wei Wang, David Rothschild, Sharad Goel, and Andrew Gelman)
- 2015 Hierarchical models for causal effects. In *Emerging Trends in the Social and Behavioral Sciences*, ed. Robert Scott and Stephen Kosslyn. (Avi Feller and Andrew Gelman)
- 2015 Hierarchical models for estimating state and demographic trends in U.S. death penalty public opinion. *Journal of the Royal Statistical Society A* **178**, 1–28. (Kenneth Shirley and Andrew Gelman)
- 2014 A world without statistics. *Significance* **11** (4), 47. (Andrew Gelman)
- 2014 The statistical crisis in science. *American Scientist* **102**, 460–465. (Andrew Gelman and Eric Loken)
- 2014 Beyond power calculations: Assessing Type S (sign) and Type M (magnitude) errors. *Perspectives on Psychological Science* **9**, 641–651. (Andrew Gelman and John Carlin)
- 2014 Statistical graphics for survey weights. *Revista Colombiana de Estadística* **37**, 285–295. (Susanna Makela, Yajuan Si, and Andrew Gelman)
- 2014 Weakly informative prior for point estimation of covariance matrices in hierarchical models. *Journal of Educational and Behavioral Statistics* **40**, 136–157. (Yejin Chung, Andrew Gelman, Sophia Rabe-Hesketh, Jingchen Liu, and Vincent Dorie)
- 2014 Stop and frisk: What's the problem? *Criminal Law and Criminal Justice Books*. (Andrew Gelman)
- 2014 Difficulty of selecting among multilevel models using predictive accuracy. *Statistics and Its Interface* **7**. (Wei Wang and Andrew Gelman)

- 2014 “How many zombies do you know?”: Using indirect survey methods to measure alien attacks and outbreaks of the undead. In *Writing Today*, third edition, ed. Richard Johnson-Sheehan and Charles Paine. (Andrew Gelman)
- 2014 Revised evidence for statistical standards. *Proceedings of the National Academy of Sciences* **111**, E1933. (Andrew Gelman and Christian Robert)
- 2014 Bootstrap averaging: Examples where it works and where it doesn’t work. *Journal of the American Statistical Association* **109**, 1015–1016. (Andrew Gelman and Aki Vehtari)
- 2014 How do we choose our default methods? In the Committee of Presidents of Statistical Societies (COPSS) 50th anniversary volume. (Andrew Gelman)
- 2014 The Commissar for Traffic presents the latest Five-Year Plan. *Chance* **27** (2), 58–60. (Andrew Gelman and Phillip N. Price)
- 2014 When do stories work? Evidence and illustration in the social sciences. *Sociological Methods and Research* **43**, 547–570. (Andrew Gelman and Thomas Basboll)
- 2014 Multiple imputation for continuous and categorical data: Comparing joint and conditional approaches. *Political Analysis* **22**, 497–519. (Jonathan Kropko, Ben Goodrich, Andrew Gelman, and Jennifer Hill)
- 2014 Hierarchical models for causal effects. In *Emerging Trends in the Social and Behavioral Sciences*, ed. Robert Scott and Stephen Kosslyn. (Avi Feller and Andrew Gelman)
- 2014 The AAA tranche of subprime science. *Chance* **27** (1), 51–56. (Andrew Gelman and Eric Loken)
- 2014 The twentieth-century reversal: How did the Republican states switch to the Democrats and vice versa? *Statistics and Public Policy* **1**, 1–5. (Andrew Gelman)
- 2014 On the stationary distribution of iterative imputations. *Biometrika* **101**, 155–173. (Jingchen Liu, Andrew Gelman, Jennifer Hill, Yu-Sung Su, and Jonathan Kropko)
- 2014 How Bayesian analysis cracked the red-state, blue-state problem. *Statistical Science* **29**, 26–35. (Andrew Gelman)
- 2014 Understanding predictive information criteria for Bayesian models. *Statistics and Computing* **24**, 997–1016. (Andrew Gelman, Jessica Hwang, and Aki Vehtari)
- 2014 Difficulties in making inferences about scientific truth from distributions of published p-values. *Biostatistics* **1**, 18–23. (Andrew Gelman and Keith O’Rourke)
- 2014 The no-U-turn sampler: Adaptively setting path lengths in Hamiltonian Monte Carlo. *Journal of Machine Learning Research* **15**, 1351–1381. (Matt Hoffman and Andrew Gelman)
- 2014 Experimental reasoning in social science. In *Field Experiments and their Critics*, ed. Dawn Teele, 185–195. New Haven, Conn.: Yale University Press. (Andrew Gelman)
- 2014 Convincing evidence. In *Roles, Trust, and Reputation in Social Media Knowledge Markets*, ed. Elisa Bertino and Sorin Matei. (Andrew Gelman and Keith O’Rourke)
- 2013 Two simple examples for understanding posterior p-values whose distributions are far from uniform. *Electronic Journal of Statistics* **7**, 2595–2602. (Andrew Gelman)
- 2013 Is it possible to be an ethicist without being mean to people? *Chance* **26** (4), 51–53. (Andrew Gelman)

- 2013 In praise of the referee. *International Society for Bayesian Analysis Bulletin* **20** (1), 13–19. (Nicolas Chopin, Andrew Gelman, Kerrie Mengersen, and Christian Robert)
- 2013 It’s too hard to publish criticisms and obtain data for replication. *Chance* **26** (3), 49–52. (Andrew Gelman)
- 2013 To throw away data: Plagiarism as a statistical crime. *American Scientist* **101**, 168–171. (Andrew Gelman and Thomas Basboll)
- 2013 Inherent difficulties of non-Bayesian likelihood-based inference, as revealed by an examination of a recent book by Aitkin. *Statistics & Risk Modeling* **30**, 1001–1016. (Andrew Gelman, Christian Robert, and Judith Rousseau).
- 2013 Interrogating P-values. *Journal of Mathematical Psychology* **57**, 188–189. (Andrew Gelman)
- 2013 Nonparametric models can be checked. Discussion of “Bayesian nonparametric inference — why and how,” by Peter Muller and Riten Mitra. *Bayesian Analysis*. (Andrew Gelman)
- 2013 They’d rather be rigorous than right. *Chance* **26** (2), 45–49. (Andrew Gelman)
- 2013 Infovis and statistical graphics: Different goals, different looks (with discussion and rejoinder). *Journal of Computational and Graphical Statistics* **22**, 2–49. (Andrew Gelman and Antony Unwin)
- 2013 Deep interactions with MRP: Election turnout and voting patterns among small electoral subgroups. *American Journal of Political Science* **57**, 762–776. (Yair Ghitza and Andrew Gelman)
- 2013 The war on data. *Chance* **26** (1), 57–60. (Andrew Gelman and Mark Palko)
- 2013 Charles Murray’s *Coming Apart* and the measurement of social and political divisions. *Statistics, Politics and Policy* **4**, 70–81. (Andrew Gelman)
- 2013 A practical guide to measuring social structure using indirectly observed network data. *Journal of Statistical Theory and Practice* **7**, 120–132. (Tyler McCormick, Amal Moussa, Johannes Ruf, Thomas DiPrete, Andrew Gelman, Julien Teitler, and Tian Zheng)
- 2013 A non-degenerate estimator for hierarchical variance parameters via penalized likelihood estimation. *Psychometrika* **78**, 685–709. (Yejin Chung, Sophia Rabe-Hesketh, Andrew Gelman, Jingchen Liu, and Vincent Dorie)
- 2013 “Not only defended but also applied”: The perceived absurdity of Bayesian inference (with discussion and rejoinder) **67**, 1–17. *American Statistician*. (Andrew Gelman and Christian Robert)
- 2013 Preregistration of studies and mock reports. *Political Analysis* **21**, 40–41. (Andrew Gelman)
- 2013 Philosophy and the practice of Bayesian statistics (with discussion and rejoinder). *British Journal of Mathematical and Statistical Psychology* **66**, 1–80. (Andrew Gelman and Cosma Shalizi)
- 2013 Rates and correlates of HIV and STI infection among homeless women. *AIDS and Behavior* **17**, 856–864. (Carol L. M. Caton, Nabila El-Bassel, Andrew Gelman, Susan Barrow, Daniel Herman, Eustace Hsu, Ana Z. Tochterman, Karen Johnson, and Alan Felix)
- 2013 Experimental reasoning in social science. In *Field Experiments and their Critics*, ed. Dawn Teele. Yale University Press. (Andrew Gelman)

- 2013 P-values and statistical practice. *Epidemiology* **24**, 69–72. (Andrew Gelman)
- 2012 What made Bell Labs special? Review of *The Idea Factory: Bell Labs and the Great Age of American Innovation*, by Jon Gertner. *Physics World*, December, 39–40. (Andrew Gelman)
- 2012 Estimating partisan bias of the electoral college under proposed changes in elector apportionment. *Statistics, Politics and Policy*. (Andrew C. Thomas, Andrew Gelman, Gary King, and Jonathan Katz)
- 2012 Ethics and the statistical use of prior information. *Chance*. (Andrew Gelman)
- 2012 Does quantum uncertainty have a place in everyday applied statistics? Discussion of “Can quantum probability provide a new direction for cognitive modeling?” by E. Pothos and J. Busemeyer. *Behavioral and Brain Sciences*. (Andrew Gelman and Michael Betancourt)
- 2012 Understanding persuasion and activation in presidential campaigns: The random walk and mean-reversion models. *Presidential Studies Quarterly*. (Noah Kaplan, David K. Park, and Andrew Gelman)
- 2012 Discussion of *Left Turn*, by Tim Groseclose. *Perspectives on Politics* **10**, 775–779. (Justin Gross, Cosma Shalizi, and Andrew Gelman)
- 2012 Statistics for sellers of cigarettes. *Chance*. (Andrew Gelman)
- 2012 Ethics in medical trials: Where does statistics fit in? *Chance* **25** (2), 52–54. (Andrew Gelman)
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- 1997 Discussion of “Analysis of non-randomly censored ordered categorical longitudinal data from analgesic trials,” by L. B. Sheiner, S. L. Beal, and A. Dunne. *Journal of the American Statistical Association*. (Andrew Gelman and Frederic Y. Bois)
- 1997 Discussion of “The EM algorithm—an old folk-song sung to a fast new tune,” by X. L. Meng and D. Van Dyk. *Journal of the Royal Statistical Society B*. (Andrew Gelman)
- 1996 Bayesian analysis of election surveys and forecasts. Discussion of “Probing public opinion: the state of Valencia experience,” by J. Bernardo. In *Case Studies in Bayesian Statistics 3*, ed. C. Gatsonis, J. S. Hodges, R. E. Kass, and N. D. Singpurwalla. (Andrew Gelman)
- 1996 Markov chain Monte Carlo methods in biostatistics. *Statistical Methods in Medical Research* **5**, 339–355. (Andrew Gelman and Donald B. Rubin)
- 1996 Physiological pharmacokinetic analysis using population modeling and informative prior distributions. *Journal of the American Statistical Association* **91**, 1400–1412. (Andrew Gelman, Frederic Y. Bois, and Jiming Jiang)
- 1996 Bayesian prediction of mean indoor radon concentrations for Minnesota counties. *Health Physics* **71**, 922–936. (Phillip N. Price, Anthony V. Nero, and Andrew Gelman)
- 1996 Population toxicokinetics of tetrachloroethylene. *Archives of Toxicology* **70**, 347–355. (Frederic Y. Bois, Andrew Gelman, Jiming Jiang, Don Maszle, and George Alexeef)

- 1996 Posterior predictive assessment of model fitness via realized discrepancies (with discussion and rejoinder). *Statistica Sinica* **6**, 733–807. (Andrew Gelman, Xiao-Li Meng, and Hal S. Stern)
- 1996 Advantages of conflictual redistricting. In *Fixing the Boundaries: Defining and Redefining Single-Member Electoral Districts*, ed. I. McLean and D. Butler. Aldershot, England: Dartmouth Publishing Company, 207–217. (Andrew Gelman and Gary King)
- 1996 Bayesian model-building by pure thought: Some principles and examples. *Statistica Sinica* **6**, 215–232. (Andrew Gelman)
- 1996 Bayesian regression with parametric models for heteroscedasticity. *Advances in Econometrics* **11**, A87–109. (W. John Boscardin and Andrew Gelman)
- 1996 Efficient Metropolis jumping rules. In *Bayesian Statistics 5*, ed. J. Bernardo et al., 599–607. Oxford University Press. (Andrew Gelman, Gareth O. Roberts, and Walter R. Gilks)  
[2014] Correction notice.
- 1996 Discussion of “Hierarchical generalized linear models,” by Y. Lee and J. A. Nelder. *Journal of the Royal Statistical Society B*. (Andrew Gelman)
- 1995 Avoiding model selection in Bayesian social research. Discussion of “Bayesian model selection in social research,” by A. Raftery. *Sociological Methodology 1995*, 165–173. (Andrew Gelman and Donald B. Rubin)
- 1995 Pre-election survey methodology: Details from nine polling organizations, 1988 and 1992. *Public Opinion Quarterly* **59**, 98–132. (D. Stephen Voss, Andrew Gelman, and Gary King)
- 1995 Method of moments using Monte Carlo simulation. *Journal of Computational and Graphical Statistics* **3**, 36–54. (Andrew Gelman)
- 1995 Inference and monitoring convergence. In *Practical Markov Chain Monte Carlo*, ed. W. Gilks, S. Richardson, and D. Spiegelhalter, 131–143. London: Chapman and Hall. (Andrew Gelman)
- 1995 Model checking and model improvement. In *Practical Markov Chain Monte Carlo*, ed. W. Gilks, S. Richardson, and D. Spiegelhalter, 189–201. London: Chapman and Hall. (Andrew Gelman and Xiao-Li Meng)
- 1995 Racial fairness in legislative redistricting. In *Classifying by Race*, ed. P. E. Peterson, 85–110. Princeton University Press. (Gary King, John M. Bruce, and Andrew Gelman)
- 1995 Review of *Handbook of Statistical Modeling for the Social and Behavioral Sciences*, ed. G. Arminger, C. C. Clogg, and M. E. Sobel. *Contemporary Sociology* **24** 712–714. (Andrew Gelman)
- 1995 Discussion of “Fractional Bayes factors for model comparison,” by A. O’Hagan. *Journal of the Royal Statistical Society B* **57**, 131. (Andrew Gelman and Xiao-Li Meng)
- 1995 Discussion of “Assessment and propagation of model uncertainty,” by D. Draper. *Journal of the Royal Statistical Society B* **57**, 83. (Andrew Gelman and Xiao-Li Meng)
- 1994 Enhancing democracy through legislative redistricting. *American Political Science Review* **88**, 541–559. (Andrew Gelman and Gary King)
- 1994 Party competition and media messages in U.S. Presidential elections. In *The Parties Respond*, second edition, ed. L. S. Maisel, 255–195. Westview Press. (Andrew Gelman and Gary King)

- 1994 A unified model for evaluating electoral systems and redistricting plans. *American Journal of Political Science* **38**, 514–554. (Andrew Gelman and Gary King)
- 1994 Discussion of “A probabilistic model for the spatial distribution of party support in multiparty elections,” by S. Merrill. *Journal of the American Statistical Association* **89**, 1198. (Andrew Gelman)
- 1994 Discussion of “Approximate Bayesian inference and the weighted likelihood bootstrap,” by M. A. Newton and A. E. Raftery. *Journal of the Royal Statistical Society B* **56**, 37. (Andrew Gelman)
- 1993 Why are American Presidential election campaign polls so variable when votes are so predictable? *British Journal of Political Science* **23**, 409–451. (Andrew Gelman and Gary King)
- 1993 Characterizing a joint probability distribution by conditionals. *Journal of the Royal Statistical Society B* **55**, 185–188. (Andrew Gelman and T. P. Speed)  
[1999] Correction notice. *Journal of the Royal Statistical Society B* **61**, 483.
- 1993 Assessing uncertainty in backprojection. Discussion of “Backcalculation of HIV infection rates,” by P. Bacchetti, M. R. Segal, and N. P. Jewell. *Statistical Science* **8**, 104–106. (with John B. Carlin) (John B. Carlin and Andrew Gelman)
- 1993 Review of *Forecasting Elections*, by M. S. Lewis-Beck and T. W. Rice. *Public Opinion Quarterly* **57**, 119–121. (Andrew Gelman)
- 1993 Discussion of “Bayesian computation via the Gibbs sampler and related Markov chain methods,” by A. F. M. Smith and G. O. Roberts. *Journal of the Royal Statistical Society B* **55**, 73. (Andrew Gelman and Donald B. Rubin)
- 1992 Inference from iterative simulation using multiple sequences (with discussion and rejoinder). *Statistical Science* **7**, 457–511. (Andrew Gelman and Donald B. Rubin)
- 1992 Iterative and non-iterative simulation algorithms. *Computing Science and Statistics* **24**, 433–438. (Andrew Gelman)
- 1992 A single series from the Gibbs sampler provides a false sense of security. In *Bayesian Statistics 4*, ed. J. Bernardo et al., 625–631. Oxford University Press. (Andrew Gelman and Donald B. Rubin)
- 1992 Discussion of “Evaluating the accuracy of sampling-based approaches to the calculation of posterior moments,” by J. Geweke. In *Bayesian Statistics 4*, ed. J. Bernardo et al., 190. Oxford University Press. (Andrew Gelman and Donald B. Rubin)
- 1992 Discussion of “Maximum entropy and the nearly black object,” by D. L. Donoho et al. *Journal of the Royal Statistical Society B* **54**, 72–73. (Andrew Gelman)
- 1991 The precision of positron emission tomography: Theory and measurement. *Journal of Cerebral Blood Flow and Metabolism* **11**, A26–30. (Nathaniel Alpert, W. C. Barker, A. Gelman, S. Weise, M. Senda, and J. A. Correia)
- 1991 A note on bivariate distributions that are conditionally normal. *American Statistician* **45**, 125–126. (Andrew Gelman and Xiao-Li Meng)
- 1991 Systemic consequences of incumbency advantage in U.S. House elections. *American Journal of Political Science* **35**, 110–138. (Gary King and Andrew Gelman)



- 1990 Estimating incumbency advantage without bias. *American Journal of Political Science* **34**, 1142–1164. (Andrew Gelman and Gary King)
- 1990 Estimating the electoral consequences of legislative redistricting. *Journal of the American Statistical Association* **85**, 274–282. (Andrew Gelman and Gary King)
- 1990 Discussion of “A smoothed EM approach to indirect estimation problems, with particular reference to stereology and emission tomography,” by B. W. Silverman et al. *Journal of the Royal Statistical Society B* **52**, 314–315. (Andrew Gelman)
- 1989 Electoral responsiveness in U.S. Congressional elections, 1946–1986 (abstract). *Proceedings of the Social Statistics Section, American Statistical Association*, 208. (Andrew Gelman and Gary King)
- 1989 Constrained maximum entropy methods in an image reconstruction problem. In *Maximum Entropy and Bayesian Methods*, ed. J. Skilling, 429–435. Kluwer Academic Publishers. (Andrew Gelman)
- 1987 Subboundary-free zone-melt recrystallization of thin-film silicon. *Applied Physics Letters* **51**, 1256–1258. (Loren Pfeiffer, Andrew Gelman, K. A. Jackson, K. W. West, and J. L. Batstone)
- 1987 Growth mechanisms during thin film crystallization from the melt. *Materials Research Society Symposium Proceedings* **74**, 543–553. (Loren Pfeiffer, Andrew Gelman, K. A. Jackson, and K. W. West)
- 1986 Reduced subboundary misalignment in SOI films scanned at low velocities. *Materials Research Society Symposium Proceedings* **53**, 29–37. (Loren Pfeiffer, K. W. West, D. C. Joy, J. M. Gibson, and A. Gelman)
- 1984 The effects of solar flares on single event upset rates. *IEEE Transactions on Nuclear Science and Radiation Effects* **NS-31**, 1212–1216. (James H. Adams, Jr., and Andrew Gelman)

## Public software

- 2012–2018 **Stan**: A C++ and R/Python package for Bayesian sampling. (Andrew Gelman, Bob Carpenter, Matt Hoffman, Daniel Lee, Ben Goodrich, Michael Betancourt, and others)
- 2008–2016 **mi**: An R package for missing data imputation. (Andrew Gelman, Jennifer Hill, Ben Goodrich, Jon Kropko, Masanao Yajima, and Yu-Sung Su)
- 2007–2016 **arm**: An R package for applied regression and multilevel modeling. (Andrew Gelman, Jennifer Hill, Maria Grazia Pittau, and Yu-Sung Su)
- 2002–2005 **R2WinBUGS**: Functions for running Bugs from R. (Andrew Gelman, Sibylle Sturtz, and Uwe Ligges)
- 1992–2008 **Judgeit**: A program for evaluating electoral systems and redistricting plans. (Andrew Gelman, Gary King, and Andrew Thomas)
- 1991–1995 **itsim**: Functions for inference for iterative simulation. (Andrew Gelman, Donald Rubin, and Stephen Brooks)

## Short courses and lecture series

- Bayesian data analysis using Stan. Google, Mountain View, California, 2016.
- Bayesian data analysis using Stan. New York, 2015, 2016.
- Master class on Bayesian and computational statistics. University College, London, 2014.
- Adventures in Bayesian data analyses. Swiss Statistical Society, Kandersteg, Switzerland, 2012.
- Bayesian analysis and multilevel models. Merck, Rahway, New Jersey, 2011.
- Regression modeling with a focus on surveys. Google, Mountain View, California, 2011.
- Statistical modeling and statistical practice. Capital One, Richmond, Virginia, 2011.
- Multilevel models: Techniques, examples, and challenges. Procter and Gamble, Cincinnati, Ohio, 2011.
- Bayesian data analysis: From theory to application and back again. University of Ljubljana, Slovenia, 2010.
- Bayesian data analysis: From theory to application and back again. Katholieke University, Leuven, Belgium, 2010.
- Practical Bayesian analysis of sample surveys. Center for Disease Control and Prevention, Atlanta, 2008.
- Bayesian statistics. Basel Statistical Society, Switzerland, 2007.
- Multilevel regression. New York City Department of Health, 2005.
- Bayesian data analysis using Bugs and R. Joint Program in Survey Methodology, University of Maryland, 2003, 2005, 2008. Robert Wood Johnson Health and Society Scholars, New York, 2006.
- Bayesian statistics. Universidad Autonoma de Madrid, Spain, 2002.
- Bayesian biostatistics. Mexican Workshop on Bayesian Statistics, Mexico City, 1999.
- Bayesian data analysis. Educational Testing Service, Princeton, New Jersey, 1998–1999.
- Bayesian statistics and Markov chain Monte Carlo. Summer School at Aalborg, Denmark, 1998.
- Bayesian data analysis. American Statistical Association meeting, Anaheim, California, 1997.
- Bayesian statistics and Markov chain Monte Carlo. Summer School at Padova, Italy, 1997.
- Bayesian data analysis. American Statistical Association meeting, Chicago, Illinois, 1996.

## Invited conference presentations

The statistical crisis in science, and how we can do better using hierarchical Bayes. Disney Data and Analytics Conference, Orlando, 2016.

Taking Bayesian inference seriously. Harvard conference on Big Data, 2016.

Crimes against data. ESRC Research Methods Festival, Bath, England, 2016.

Bayes en médecine : Les possibilités et les risques. Conférence EPICLIN, Strasbourg, France, 2016.

Toward routine use of informative priors. International Conference on Machine Learning, New York, 2016.

The statistical crisis in science. Chief Economists' workshop, Bank of England, London, 2016.

The crisis in science and the crisis in science journalism. Swiss Association for Science Journalism, Bern, Switzerland, 2016.

Little data: How traditional statistical concerns remain relevant in a big-data world. Barcelona Data Science Meeting, Spain, 2016.

The statistical crisis in science. International Neuropsychological Society meeting, Boston, 2016.

Adventures on the efficient frontier. Neural Information Processing Society meeting, Montreal, 2015.

Can we use Bayesian methods to resolve the current crisis of unreplicable research? Nordstat meeting, Turku, Finland, 2014.

Weakly informative priors: When a little information can do a lot of regularizing. AISTats meeting, Reykjavik, Iceland, 2014.

Can we use Bayesian methods to resolve the current crisis of statistically-significant research findings that don't hold up? International Society for Bayesian Analysis meeting, Chamonix, France, 2014.

Causality and statistical learning. Annual Health Economics Workshop, New York, 2012.

Mathematics, statistics, and political science. Joint Statistical Meetings, Miami, 2011.

Culture wars, voting, and polarization: divisions and unities in modern American politics. Harvard/Manchester workshop on inequality and social change, 2010.

Posterior predictive checking and generalized graphical models. AppliBugs meeting, Paris, 2009.

Parameterization and Bayesian modeling. Institut Henri Poincare, Paris, 2009.

Posterior predictive checking and generalized graphical models. AppliBugs meeting, Paris, 2009.

Some problems in network analysis. Workshop on networks at Radcliffe Institute, Cambridge, Massachusetts, 2009.

Weakly informative priors. UseR conference, Dortmund, Germany, 2008.

Should the Democrats move to the left on economic policy? Joint Statistical Meetings, Denver,

2008.

Learning about social and political polarization using “How many X’s do you know” surveys. Workshop on social networks at Nuffield College, Oxford, 2007.

Weakly informative priors. Workshop on Monte Carlo methods, Cambridge, Massachusetts, 2007.

Some thoughts on multiple comparisons. Association for Public Policy Analysis and Management conference, Washington, D.C., 2007.

Bayesian inference and multilevel modeling. American Sociological Association meeting, Montreal, Canada, 2006.

Learning about social and political polarization using “How many X’s do you know” surveys. American Political Science Association meeting, Washington, D.C., 2005.

Interactions in multilevel models. Joint Statistical Meetings, Minneapolis, 2005.

Teaching statistics: a bag of tricks. Workshop on teaching quantitative political science, Northampton, Massachusetts, 2005.

Toward an environment for Bayesian data analysis in R. Joint Statistical Meetings, Toronto, 2004.

Survey weighting and hierarchical regression. Joint Statistical Meetings, Toronto, 2004.

Computation for Bayesian data analysis. Joint Statistical Meetings, Toronto, 2004.

Struggles (and some solutions) in statistical computing. Joint Statistical Meetings, San Francisco, 2003.

Parameterization and modeling. First Cape Cod Workshop on Monte Carlo Methods, Hyannis, Massachusetts, 2002.

Bayesian exploratory data analysis. Seventh Valencia meeting on Bayesian Statistics, Spain, 2002.

Probability modeling and Markov chain Monte Carlo. Neural Information Processing Society meeting, Denver, 2000.

Gibbs sampling as a way of life. American Statistical Association meeting, Indianapolis, 2000.

Analysis of variance: Why it is more important than ever. Institute of Mathematical Statistics meeting, Chicago, 2000.

Models, assumptions, and model checking in ecological regressions. Royal Statistical Society workshop on disease clustering and epidemiology, London, 1999.

Weighting and poststratification. International Workshop on Survey Nonresponse, Portland, Oregon, 1999.

Interpreting statistical graphics as model checking. Joint Statistical Meetings, Baltimore, 1999.

Using dynamic weighting to optimize proposal distributions for the Metropolis algorithm. Joint Statistical Meetings, Baltimore, 1999.

OK, we've fit a pharmacokinetic model. Now how can we understand it? Biomedical Simulations Resource Center workshop on pharmacokinetics and pharmacodynamics, Marina del Rey, California, 1999.

Bayesian data analysis. Psychometric Society meeting, Lawrence, Kansas, 1999.

Not asked and not answered: multiple imputation for multiple surveys. American Statistical Association meeting, Dallas, 1998.

Exploratory data analysis for complex models. 50th anniversary meeting, Iowa State University Statistics Department, Ames, Iowa, 1997.

Roundtable discussion on Markov chain Monte Carlo methods. Joint Statistical Meetings, Anaheim, California, 1997.

How can statistical theory help with statistical practice? Example of a Bayesian analysis in toxicokinetics. International Workshop on Statistical Modelling, Biel/Bienne, Switzerland, 1997.

Constructing complex models for Bayesian inference. Dutch Society for Statistics and Operational Research meeting, Utrecht, Netherlands, 1997.

Bayesian data analysis with discrete data and discrete-parameter models. Dutch Classification Society meeting, Arnhem, Netherlands, 1997.

Complex scientific and statistical models. International Society for Bayesian Analysis meeting, Chicago, 1996.

Path sampling for computing normalizing constants and marginal distributions. American Mathematical Society conference on stochastic inference, Monte Carlo and empirical methods, South Hadley, Massachusetts, 1996.

Discussion of "Probing Public Opinion: the State of Valencia Experience." Third Workshop on Case Studies in Bayesian Statistics in Science and Technology, Carnegie Mellon University, Pittsburgh, 1995.

Enhancing democracy through legislative redistricting. Conference on Boundary Determination in the UK Parliament, Nuffield College, Oxford, 1995.

Bayesian computation. National Science Foundation symposium on simulation and estimation, University of California, Berkeley, 1994.

Inference from iterative simulation. Australian Statistical Meeting, Melbourne, 1994.

Path sampling: a continuous version of bridge sampling. Institute of Mathematical Statistics meeting, Los Angeles, 1994.

Enhancing democracy through legislative redistricting. Hendricks Symposium on Legislative Redistricting, University of Nebraska, Lincoln, 1994.

Redistricting and responsiveness. Midwest Political Science Association meeting, Chicago, 1993.

Recent work on using parallel series to draw inferences from iterative simulation. Purdue Symposium on Statistical Decision Theory and Related Topics, West Lafayette, Indiana, 1992.

Probability models and smoothing for images. Institute of Mathematical Statistics meeting, Cincinnati, 1992.

Inference from iterative simulation. Statistics and Computer Science Interface Meeting, College Station, Texas, 1992.

Testing goodness-of-fit for tomography models. Mathematical Sciences Research Institute symposium, Berkeley, California, 1991.

Spatial structure and image reconstruction. The Institute of Management Sciences meeting on stochastic processes, Monterey, California, 1991.

Statistics and political science. American Political Science Association meeting, San Francisco, 1990.

Also presented invited talks at Aalto University, Academia Sinica, AgroParisTech, Amazon, AT&T Laboratories, Baruch College, Bell Laboratories, Boston University, Brown University, California Institute of Technology, California State University, Carnegie Mellon University, Cato Institute, Centers for Disease Control and Prevention, City University of New York, Criteo, Columbia University, Duke University, Educational Testing Service, ENSAE, Food and Drug Administration, Genentech Corporation, George Mason University, George Washington University, Google, Harvard University, Hunter College, Imperial College, International Association for Research on Cancer, Iowa State University, Johns Hopkins University, Katholieke Universiteit Leuven, London School of Economics, Massachusetts Institute of Technology, Mathematica Policy Research, Medical University of South Carolina, Montana State University, National Chiao-Tung University, National Institute of Standards and Technology, Naval Postgraduate School, New America Foundation, New Jersey Institute of Technology, New York University, Northwestern University, Ohio State University, Oxford University, Pfizer, Princeton University, Rand Corporation, Rutgers University, Saginaw Valley State University, Sciences Po, Smith College, Stanford University, Swarthmore College, Temple University, Tilburg University, Tufts University, University of Amsterdam, University of Augsburg, University of Bath, University of Bristol, University of British Columbia, University of California (Berkeley, Irvine, Los Angeles, and Santa Barbara), University College London, University of Chicago, University of Glasgow, University of Groningen, University of Kansas, University of Kentucky, University of Bristol, University of Maryland, University of Michigan, University of Paris, University of Pennsylvania, University of Rochester, Universite de Technologie de Compiègne, University of Toronto, University of Washington, U.S. Census Bureau, Warwick University, Wyeth Pharmaceuticals, Yahoo Research, and Yale University.

## **Courses taught**

Introduction to Probability and Statistics

Sample Surveys

Decision Analysis

Statistical Consulting

Statistical Modeling and Data Analysis I, II

Bayesian Data Analysis

Quantitative Methods in Social Sciences

Multilevel Modeling

Teaching Statistics at the University Level

Applied Regression and Multilevel Modeling

Research in Quantitative Political Science

Statistical Computing

Statistical Communication and Graphics

Communicating Data and Statistics

## **Service**

Served on editorial board of the following journals: American Sociological Review, Annals of Applied Statistics, Biometrika, Chance, Journal of the American Statistical Association, Journal of Educational and Behavioral Statistics, Journal of Statistical Planning and Inference, Judgment and Decision Making, Medical Decision Making, Political Analysis, Sociological Methodology, and Statistica Sinica.

Refereed articles in probability and statistics for Advances and Applications in Statistics, American Mathematical Monthly, Annals of Applied Probability, Annals of the Institute of Statistical Mathematics, Annals of Statistics, Artificial Intelligence Journal, Australian Journal of Statistics, Automatica, Biometrical Journal, Biometrics, Biometrika, BMC Medical Research Methodology, Canadian Journal of Statistics, Journal of the American Statistical Association (Applications, Theory & Methods, and General sections), Communications in Statistics, Computational Statistics and Data Analysis, IEEE International Symposium on Information Theory, IEEE Transactions, IEEE Transactions on Pattern Analysis and Machine Intelligence, International Statistical Review, Journal of Business and Economic Statistics, Journal of Computational and Graphical Statistics, Journal of Educational and Behavioral Statistics, Journal of the Royal Statistical Society (Series A and B), Journal of Statistical Planning and Inference, Journal of Zhejiang University Science, Lifetime Data Analysis, Measurement Science and Technology, Metron, Pakistan Journal of Statistics, Probability in the Engineering and Information Sciences, Psychometrika, R News, Sankhya, Scandinavian Journal of Statistics, SIAM Journal on Applied Mathematics, Sociological Methodology, Sociological Methods and Research, Statistica Sinica, Statistical Modelling, Statistical Papers, Statistical Science, Statistics and Computing, Statistics and Probability Letters, Statistics in Medicine, Stochastics, Technometrics, Test, and various other journals.

Refereed articles in applied fields for the American Economic Review, American Journal of Political Science, American Journal of Public Health, American Political Science Review, Annals of Emergency Medicine, Applied Economics Research Bulletin, BMC Medical Informatics and Decision Making, BMC Medical Research Methodology, British Journal of Mathematical and Statistical Psychology, British Journal of Political Science, Chest, Clinical Infectious Diseases, Comparative Political Science, Developmental Psychology, Ecology, Ecological Applications, Economic Theory, Educational Evaluation and Policy Analysis, Electoral Studies, Environmental Modelling and Software, Epidemiology, European Journal of Political Economy, Geographical Analysis, Geographical and Environmental Modelling, IEEE Transactions on Medical Imaging, International Journal of

Forecasting, International Journal of Psychiatry in Medicine, Journal of Clinical Epidemiology, Journal of Clinical Investigation, Journal of Consulting and Clinical Psychology, Journal of Economic Behavior and Organization, Journal of Human Development, Journal of Pharmacokinetics and Pharmacodynamics, Journal of Political Economy, Journal of Politics, Journal of Population Research, Journal of Stochastic Environmental Research and Risk Assessment, Journal of Theoretical Biology, Journal of Theoretical Politics, Legislative Studies Quarterly, Management Science, Marine and Freshwater Research, Mathematical Psychology, Nature, Organizational Research Methods, Party Politics, Pharmaceutical Statistics, Physical Review, Political Analysis, Political Behavior, Political Research Quarterly, Proceedings of the National Academy of Sciences, Psychological Methods, Public Opinion Quarterly, Quarterly Journal of Political Science, Rationality and Society, Risk Analysis, Science, Social Problems, Social Science Quarterly, State Politics and Policy Quarterly, Theory and Decision, Trials, World Politics, and Zeitschrift fur Psychologie, and many other journals.

Reviewed research proposals or served on review panels for the Australian Research Council, Canada Foundation for Innovation, Hong Kong Research Council, Israel Science Foundation, Natural Sciences and Engineering Research Council of Canada, U.K. Economic and Social Research Council, U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Department of Energy, U.S. Institute of Education Sciences, U.S. National Institutes of Health, U.S. National Research Council, U.S. National Security Agency, U.S. National Science Foundation, and Wellcome Trust.

Served on advisory panel for New York City Social Indicators Survey, School of Social Work, Columbia University.

Served on advisory panel for Columbia University Superfund Basic Research Program, Health Effects and Geochemistry of Arsenic and Lead.

Served on National Academy of Sciences Panel on Improving Data to Analyze Food and Nutrition Policies.

Senior Advisor for Columbia University Center on Integrative Developmental Science.

Served on advisory panel for the General Social Survey.

Research blog, Statistical Modeling, Causal Inference, and Social Science, since 2004, <http://andrewgelman.com/>

Contribute to Monkey Cage political science blog at the *Washington Post*, <http://www.washingtonpost.com/blogs/monkey-cage/>

Communicate statistics to the public via general-interest articles in the *New York Times*, *Slate*, *Vox*, the *New Yorker*, and other publications.

## Consulting

Areas of expertise include: sampling (design and analysis); Bayesian statistics; regression and multilevel modeling; statistical computing; public opinion, voting, and American politics; environmental statistics; statistical communication and graphics.

### Business consulting:

1998–1999 U.S. Postal Service (design and analysis of sample surveys)



- 2009 Intertek Sustainability Solutions (design of a supplier auditing system)
- 2009 Australia Online Research (survey weighting)
- 2013 Pfizer (discussion of trends and statistical methods related to public opinion and health reform)
- 2010–2017 Novartis (statistical modeling, computing, and data analysis)
- 2014–2016 National Board of Medical Examiners (statistical modeling, computing, and data analysis)

**Legal consulting:**

- 2004–2005 Kornstein Veisz Wexler & Pollard, LLP, representing Employers Insurance Company of Wausau in *Willis of New York, Inc. v. Employers Insurance Company of Wausau* (analysis of survey data, criticism of analyses). Submitted an expert report. Case was settled before trial.
- 2006 Latham & Watkins, representing the American Civil Liberties Union in *ACLU et al. v. Attorney General Alberto R. Gonzales* (assessment of quality of surveys). Submitted an expert report. Was deposed as an expert. Case was settled before trial.
- 2010–2012 Cadwalader, Wickersham & Taft LLP, representing MBIA Insurance Corporation in *MBIA Insurance Corporation v. Residential Funding Company, LLC* (design and analysis of surveys). Submitted an expert report. Case was settled before trial.
- 2014–2015 Latham & Watkins, representing Health Corporation of America, in *Health Care Foundation of Greater Kansas City v. HM Acquisition, LLC and HCA, Inc.* (analysis of survey data, missing-data imputation, statistical graphics). Case was settled before trial.

**Other consulting:**

Reviewed reports, performed analyses, or gave statistical advice to Alcoholics Anonymous, Associated Press, Con Edison, Council on Accreditation for Children and Family Services, Environmental Protection Agency, RAND, Museum of Modern Art, National League for Nursing, New York City Department of Health, New York State Attorney General’s Office, Pandora, Random House, Transparency International, Voter News Service, and other organizations.