

**Contact Information**

Address: Department of Statistical Science  
 Duke University  
 Durham, NC 27708-0251  
 E-mail: berger@stat.duke.edu  
 Phone: +1 919-684-4531  
 Webpage: <http://www.stat.duke.edu/~berger/>

**Education**

A.B.	(Mathematics)	Cornell University	1971
M.A.	(Mathematics)	Cornell University	1973
Ph.D.	(Mathematics)	Cornell University	1974

**Positions Held**

1997– Arts and Sciences Professor of Statistics, Duke University  
 2011– Visiting Professor (Spring Quarter), University of Chicago  
 2011– Honorary Professor, East China Normal University  
 2014–2015 Distinguished Adjunct Professor, King Abdulaziz University  
 2014–2015 Saw Swee Hock Professor of Statistics, National University of Singapore  
 2002–2010 Director of the Statistical and Applied Mathematical Sciences Institute  
 1986–1997 Richard M. Brumfield Distinguished Professor of Statistics,  
 Purdue University  
 1988–1989 Visiting Professor at Duke University  
 1980–1986 Professor of Statistics, Purdue University  
 1979–1980 Visiting Scholar at Stanford University  
 1976–1980 Associate Professor of Statistics, Purdue University  
 1976–1977 Assistant Professor of Statistics with tenure, Purdue University  
 1974–1976 Assistant Professor of Statistics, Purdue University

**Current Research Interests**

Multiplicity; Hypothesis Testing and Model Selection; Decision Theory; Multivariate Statistical Analysis; Bayesian Analysis; Foundations of Statistics; Simulation and MCMC Computation; Likelihood; Spatial Statistics; Nonparametric Statistics; Interdisciplinary Research in Astronomy, Geophysics, High-Energy Physics, Medicine, Meteorology, and Validation of Complex Computer Models.

**Professional Societies**

American Statistical Association; Institute of Mathematical Statistics; International Society for Bayesian Analysis; Bernoulli Society; Canadian Statistical Society; International

Statistical Institute; International Chinese Statistical Association; American Association for the Advancement of Science; Sigma Xi; Society for Industrial and Applied Mathematics.

## **Awards, Grants, and Fellowships**

### *Awards and Fellowships*

Awarded a Guggenheim Fellowship for 1977–78.

Awarded a Sloan Fellowship for 1979–81.

Fellow (1980) of the Institute of Mathematical Statistics.

Fellow (1985) of the American Statistical Association.

Awarded an Erskine Fellowship (New Zealand) in 1985 and 1995.

Received Committee of Presidents of the Statistical Societies “Presidents” Award in 1985.

Fellow (1988) of the American Association for the Advancement of Science.

Elected member of the International Statistical Institute

Sigma Xi Research Award for contribution of the year to science at Purdue University in 1993.

Krishnaiah Visiting Scholar, Penn State University, 2002

Elected as foreign member of the Spanish Real Academia de Ciencias, 2002.

Elected to the USA National Academy of Sciences in 2003.

Honorary Doctor of Science Degree, Purdue University, May 15, 2004.

Frank Wilcoxon Award for the best applied paper in 2005 in *Technometrics*.

North Carolina chapter of the American Statistical Association Award in 2007 for outstanding contributions to statistics.

Jack Youden Prize for the best expository paper in 2007 in *Technometrics*.

Distinguished Service Award, National Institute of Statistical Sciences, 2008.

C. R. and Bhargavi Rao Prize, 2011.

Distinguished Alumni Award, Department of Statistics, Cornell University, 2012

Fellow (2012) of the International Society for Bayesian Analysis

Samuel S. Wilks Memorial Award from the American Statistical Association, 2015

Award for “Most Influential *Bayesian Analysis* paper” in the first 10 years of the journal, 2016

### *Grants*

Awarded individual National Science Foundation Grants on Decision Theory and/or Bayesian Analysis from 1975–2007 and 2010–2018.

Awarded a National Science Foundation Grant on Simulation from 1988–1991.

Awarded Cooperative Basic Research Grant on Reference Priors for 1985–1988 by U.S.–Spain Joint Committee for Scientific Cooperation.

Awarded NSF, NSA, and Army Grants to provide for Group Travel to the Fourth, Fifth, Sixth, and Seventh Valencia Meetings on Bayesian Statistics in 1991, 1994, 1998, and 2002.

Awarded NSF and NSA Grants for the Conference on Multiple Decision Theory and Workshop on Intrinsic Bayes Factors, Purdue University, June 1995.

Awarded a National Science Foundation Grant on Evaluation of Complex Computer

Models from 2000–2003.  
 Awarded a National Science Foundation Grant on Adaptive Experimental Design for Astronomical Exploration, from 2005–2010.  
 Awarded a National Science Foundation Grant for the Statistical and Applied Mathematical Sciences Institute for 2002–2007.  
 Awarded a National Science Foundation Grant for the Statistical and Applied Mathematical Sciences Institute for 2007–2012.  
 Awarded a National Science Foundation Grant on Prediction and Risk of Extreme Events Utilizing Mathematical Computer Models of Geophysical Processes, for 2008–2011.  
 Awarded (with researchers from 5 Spanish universities) a Spanish Ministry of Education and Science grant on Objective Bayesian Methods in Public Health and Environment, 2007-2010.  
 Awarded a National Science Foundation Grant on Collaborative Research: Bayesian Analysis and Applications, 2010-2014.  
 Awarded (with researchers from 4 Spanish universities) a Spanish Ministry of Education and Science grant on Validation and Implementation of Bayesian Models for State-of-the-art Applications, 2010-2013.  
 Awarded a Lilly Research Foundation Grant on the Objective Bayesian Approach to Biomarker and Subgroup Identification to Enable Tailored Therapeutics, 2012.  
 Awarded a National Science Foundation Grant on Collaborative Research: Statistical and Computational Models and Methods for Extracting Knowledge from Massive Disparate Data for Quantifying Uncertain Hazards, 2012-2014.  
 Awarded a National Science Foundation Grant on Bayesian Analysis and Interfaces, 2014-2018.  
 Awarded a National Science Foundation Grant on Hazards SEES: Persistent volcanic crises resilience in the face of prolonged and uncertain risk, 2015-2018.  
 Awarded a National Science Foundation Grant on Collaborative Research: Advancing Statistical Surrogates for Linking Multiple Computer Models with Disparate Data for Quantifying Uncertain Hazards, 2016-2018.

## Professional Activities

### *Editorial*

Associate Editor of the *Annals of Statistics*, 1980-1997.  
 Editorial Board of *Statistics and Decisions*, 1980–1988.  
 Associate, Coordinating or Advisory Editor of the *Journal of Statistical Planning and Inference*, 1983–  
 Editorial Board of *Springer Series in Statistics*, 1987–1992.  
 Associate Editor of the *International Statistical Review*, 1987–1992.  
 Associate Editor of *Test*, 1992–1998.  
 Co-Editor, *Annals of Statistics*, 1997–2001.  
 Founding Co-Editor, *Journal on Uncertainty Quantification*, 2012 – 2015.

### *Professional*

President of the Institute of Mathematical Statistics, 1995–1996.  
Chair of the Section of Bayesian Statistical Science of the ASA, 1995.  
President of the International Society for Bayesian Analysis, 2004.  
Chair of the Advisory Committee for the NSF Directorate on Mathematical and Physical Sciences, 2010–2013.  
Service on numerous societal, organizational, academic, and governmental councils, committees, panels, and boards.

### *Conference Organization*

1. Program Chairman for the Joint Central and Eastern Regional Meeting of the Institute of Mathematical Statistics at East Lansing, Michigan, June 18–20, 1979.
2. Associate Program Chairman for the Third Purdue Symposium on Statistical Decision Theory and Related Topics, June 1–5, 1981.
3. Organizer of the First Midwest Statistics Conference, 1982.
4. Co-Chairman of the CBMS–NSF Conference on Exchangeability and Partial Exchangeability, July 23–27, 1984.
5. Co-chairman for the Fourth Purdue Symposium on Statistical Decision Theory and Related Topics, June 16–20, 1986.
6. Co-chairman of the Workshop on Bayesian Robustness at Purdue University, March 10–11, 1989.
7. Organizing Committee of the Fourth Valencia Conference on Bayesian Statistics, April 15–20, 1991.
8. Coorganizer of the Fifth Purdue Symposium on Statistical Decision Theory, June 1992.
9. Organizing Committee of the Oberwolfach Conference on Statistical Decision Theory, October 27–November 2, 1991.
10. Organizing Committee of the Milan Workshop on Bayesian Robustness, May 17–21, 1992.
11. Organizing Committee of the Fourth International Meeting on Statistics in the Basque Country, August 3–8, 1992.
12. Organizing Committee of the Fifth Valencia International Meeting on Bayesian Statistics, June 5–10, 1994.
13. Organizing Committee of the Second International Workshop on Bayesian Robustness, Rimini, Italy, May 22–25, 1995.
14. Organizer of the Conference on Multiple Decision Theory and Related Topics, and Workshop on Intrinsic Bayes Factors, Purdue University, June 8–12, 1995.
15. Organizer of the Workshop on Default Bayesian Methodology, Purdue University, November 1–3, 1996.
16. Organizing Committee of the Sixth Valencia International Meeting on Bayesian Statistics, May 30 - June 5, 1998.
17. Organizer of the Workshop on the Interface of Statistical Paradigms, Purdue University, June 17–19, 1998.
18. Organizing Committee of the International Workshop on Objective Bayesian Methodology, June 10–14, 1999.

19. Organizing Committee of the Second International Workshop on Foundational Issues and Statistical Practice, Bibbiena, Italy, October 14-16, 1999.
20. Organizing Committee of the AMS Summer Research Conference ‘Bayes, Frequentist and Likelihood Inference: a Synthesis’ at Mount Holyoke College, July 14-19, 2000.
21. Organizing Committee of the Third International Workshop on Objective Bayesian Methodology, Ixtapa, Mexico, September 20-23, 2000.
22. Scientific Committee of the Third International Symposium on Sensitivity Analysis of Model Output, Madrid, June 18-20, 2001.
23. Organizing Committee of the Seventh Valencia International Meeting on Bayesian Statistics, June 1–6, 2002.
24. Organizing Committee of the International Granada Workshop on Objective Bayesian Analysis, Granada, Spain, December 6–8, 2002.
25. Organizing Committee of the Workshop on Computational Science and Engineering, Arlington, VA, March 23–25, 2003.
26. Organizing Committee of the Fourth International Workshop on Objective Bayesian Methodology, Aussois, France, June 15–19, 2003.
27. Organizing Committee of the Seventh Purdue Symposium on Statistical Decision Theory and Related Topics, W. Lafayette, June 16–19, 2003.
28. Organizing Committee of the 1st IMS-ISBA Joint meeting, San Juan, Puerto Rico, July 24–26, 2003.
29. Organizing Committee of the Fourth Workshop on Bayesian Nonparametrics, Rome Italy, June, 13-16, 2004.
30. Organizing Committee of the Workshop on Complex Data Structures, Banff, Canada, April 9-14, 2005.
31. Organizing Committee of the Fifth International Workshop on Objective Bayesian Methodology, Branson Missouri, June 5-8, 2005.
32. Organizing Committee of the Statistische und Probabilistische Methoden der Modellwahl Workshop, Oberwolfach, Germany, October 16-22, 2005.
33. Organizing Committee of the Eighth Valencia International Meeting on Bayesian Statistics, June, 2006.
34. Organizing Committee of the Workshop on Complex Data Structures, Banff, Canada, April 8-13, 2007.
35. Organizing Committee of the Sixth International Workshop on Objective Bayesian Methodology, Rome Italy, June 8-12, 2007.
36. Organizing Committee of the 3rd Lehmann Symposium, May 17-19, 2007.
37. Organizing Committee of the NSF Workshop on Discovery in Complex or Massive Data Sets, Washington DC, October 16-17, 2007.
38. Organizing Committee of the Seventh International Workshop on Objective Bayesian Methodology, Philadelphia, June 4-8, 2009.
39. Organizer of the Workshop and Report on Data-Enabled Science in the Mathematical and Physical Sciences, Washington DC, March 29-30, 2010.
40. Organizing Committee of the Ninth Valencia International Meeting on Bayesian Statistics, June 3-8, 2010.

41. Organizing Committee of the Summer School on Computer Models and Geophysical Risk Analysis, Vancouver, August 6-10, 2010.
42. Program Committee of the Joint Bernoulli/IMS annual meeting, August 9-13, 2010.
43. Organizing Committee of the conference on Borrowing Strength: Theory Powering Applications, Philadelphia, December 15-17, 2010.
44. Organizing Committee of PHYSTAT 2011, Geneva, January 17-19, 2011.
45. Organizing Committee of the Eighth International Workshop on Objective Bayesian Methodology, Shanghai China, June 11-15, 2011.
46. Organizing Committee of the SIAM/ASA Conference on Uncertainty Quantification, Raleigh NC, April 1-5, 2012.
47. Organizing Committee of the International Workshop on Bayesian Model Selection, Shanghai China, January 14-18, 2013.
48. Organizing Committee of O-Bayes 2013: Celebrating 250 Years of Bayes, Durham NC, January 15-19, 2013.
49. Organizing Committee of the International Workshop on Multiplicity, Shanghai China, June 8-12, 2014.
50. Scientific Committee of the 2014 Annual Meeting of the Institute of Mathematical Statistics, Sydney, Australia, July 7-11, 2014
51. Organizing Committee of the International Workshop on Multiplicity, Shanghai China, June 8-12, 2014.
52. Scientific Committee of the meeting Statistics and Exoplanets, Honolulu HI, August 3-5, 2015.
53. Co-Chair of the 2016 SIAM/ASA Conference on Uncertainty Quantification, Lausanne, Switzerland, April 5-8, 2016.
54. Program Committee Chair of the 2017 Workshop on Objective Bayesian Analysis, Austin, Texas, December 10-14, 2017.

### **Special Invited Lectures**

1. Presented a Special Invited Paper at the Institute of Mathematical Statistics Annual Meeting in 1981.
2. Was the Principal Lecturer (10 lectures) at the NSF-CBMS Mathematical Sciences Conference on Multivariate Estimation at the University of Florida, January 7-11, 1985.
3. Keynote Speaker at the Pacific Statistical Congress in Auckland, May 20-24, 1985.
4. Keynote Speaker at the Ninth Annual EPA Conference on Statistics, March 4, 1993.
5. Presented a Presidential Invited Address at the 50th Session of the International Statistical Institute, August 22, 1995.
6. Presented a Keynote Address at the Conference on Statistical and Bayesian Methods in Hydrological Science, September 11, 1995.
7. Presented the DeGroot Lecture at the Third Conference on Case Studies in Bayesian Statistics, October 6, 1995.
8. Presented the 1996 Mahalanobis Lectures (three) at the Indian Statistical Institute.
9. Presented the 1997 Taft Lecture at the University of Cincinnati.

10. Keynote Speaker at the Workshop on Empirical Bayes Analysis in Montreal, November 9–15, 1997.
11. Presented the 1999 Buehler-Martin lectures (three) at the University of Minnesota.
12. Presented the Keynote Lecture at the International Conference on Recent Advances in Statistics and Combinatorics, Mobile, Alabama, December 18-21, 1999.
13. Presented the 2000 Eugene Lukacs lectures at Bowling Green State University.
14. 2001 Fisher Lecturer at the Joint Statistical Meetings
15. Presented a Keynote Lecture at the XXXIV<sup>èmes</sup> Journées de Statistique, Brussels, May 16, 2002.
16. Presented a Science Symposium Lecture at Los Alamos National Laboratory, February 28, 2002.
17. Keynote speaker at the Fourth Winemiller Symposium on Applied Statistics, University of Missouri, April 8, 2003.
18. Presented the 2003 Krishnaiah Lectures (two) at Pennsylvania State University, April 25, 2003.
19. Keynote address at the Spring Session of the Korean Statistical Society, Cheju Korea, May 23, 2003.
20. Keynote Address at J&J Biostatistics Conference, Sept. 25, 2003.
21. Presented the 2004 Craig Lectures (three), University of Iowa, April 8-9, 2004.
22. Presented the 2004 Bradley Lecture, University of Georgia, April 30, 2004.
23. Presented the 2004 Pillai Lecture, Purdue University, May 14, 2004.
24. Plenary Lecture at the Conference on The Future of Statistical Theory, Practice and Education, Hyderabad, India: December 31, 2004.
25. Keynote Lecture at the International Workshop/Conference on Bayesian Statistics and its Applications, Varanasi, India: January 7, 2005.
26. Keynote lecture at ProGic 2005, London, July 7, 2005
27. H.O. Hartley Lectures (3), Texas A&M University, August 31 – September 2, 2005.
28. First Geisser memorial lecturer, Univ. Minnesota, September 22, 2005.
29. Keynote Presentation at the Workshop on Bayesian Inference in Complex Stochastic Systems, University of Warwick, May 29, 2006.
30. Keynote Lecture at the 2006 International Chinese Statistical Association Applied Statistics Symposium, Stours, June 16, 2006
31. Pacific Institute of Mathematical Sciences (PIMS) 10th Anniversary Lecturer, Spring, 2007.
32. Chhotey Lal and Mohra Devi Rustagi Memorial Lecture, Ohio State University, May 24, 2007
33. Wald Lectures (three) of the Institute of Mathematical Statistics, Salt Lake City, July 31 – August 2, 2007.
34. Plenary Speaker, International Conference on Multiple Decision Theory, Statistical Inference and Applications, Taipei, December 28, 2007.
35. University of Maryland Statistics Consortium Distinguished Lecture, April 30, 2008.
36. Keynote speaker at the 2008 World Meeting of the International Society of Bayesian Analysis, Hamilton Island, Australia, July 21, 2008.
37. D. R. Fulkerson Lectures (3), Cornell University, April 20 – 23, 2009.

38. Keynote Lecture, New England Statistics Symposium, April 25, 2009
39. Plenary talk at the Conference in honor of John Hartigan, May 15, 2009.
40. Keynote Address at the Tenth Islamic Countries Conference on Statistical Sciences ICCS-X, Cairo Egypt, December 22, 2009.
41. Plenary talk at the German Joint Statistical Meeting, March 26, 2010.
42. Ted and Janice Smith Distinguished Lecture, Irvine CA, May 17, 2010.
43. Raj Bahadur Lectures (2), University of Chicago, April, 2011.
44. Keynote speaker at the 7th International Conference on Multiple Comparison Procedures, Washington DC, August 2011.
45. Keynote speaker at the Fifth Annual Bayesian Biostatistics Conference, January 23, 2012.
46. Presidential Invited Address, Statistical Society of Canada 2012 Annual Meeting, Guelph Canada, June 4, 2012
47. Plenary address, 8th International Purdue Symposium on Statistics, West Lafayette IN, June 21, 2012
48. Principle Lecturer (eight lectures) at the CBMS Regional Conference in the Mathematical Sciences on Model Uncertainty and Multiplicity, UC Santa Cruz, July 23-27, 2012
49. Plenary address, International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro NC, October 6, 2012
50. Keynote address, International Workshop/Conference on Bayesian Theory and Applications, Varanasi India, January 6, 2013
51. Keynote address, 2013 Minghui Yu Memorial Conference, New York NY, April 13, 2013
52. Microsoft distinguished lecturer, University of Washington, April 22, 2013
53. Special Annals of Statistics Invited Session, Joint Statistical Meetings, Montreal, August 7, 2013
54. Burack Lecturer, University of Vermont, September 12-13, 2013
55. Keynote address, Frontiers in Methodological and Applied Statistics Conference, University of Missouri, September 19, 2013
56. Challis Lecturer, University of Florida, November 14-15, 2013
57. Keynote address, Fourth Singapore Conference on Statistical Science, February 7, 2014.
58. Plenary address, SIAM/ASA Conference on Uncertainty Quantification, Savannah GA, April 2, 2014.
59. Foundation Lecture, World Meeting of the International Society for Bayesian Analysis, Cancun, Mexico, July 14, 2014.
60. Barnett Lecture, University of Cincinnati, November 3, 2014.
61. Keynote address, Spanish Statistical and Operations Research Conference, Pamplona Spain, May 26, 2015.
62. Grand Rounds Presentation, Eli Lilly and Co., July 29, 2015.
63. Keynote address, Workshop on Fusion Learning, BFF inferences and Statistical Foundations, Rutgers Univ., April 11, 2016.



64. Bernard G. Greenberg Distinguished Lecture Series (3 lectures), University of North Carolina, Chapel Hill, May 12 - 13, 2016.

### **Doctoral Dissertations Directed**

1. Robust Bayes Estimation, by James H. Albert, Purdue University, 1979.
2. Improving Upon Inadmissible Estimators in Discrete Exponential Families, by Jiunn T. Hwang, Purdue University, 1979.
3. On the Choice of Coordinates in Simultaneous Estimation of Normal Means, by Dipak Dey, Purdue University, 1980.
4. Estimation in a Statistical Control Problem, by Lloyd Mark Berliner, Purdue University, 1980.
5. Restricted Risk Bayes Estimation, by Shun Yu Chen, Purdue University, 1983.
6. Testing a Precise Hypothesis: Interpreting P-Values from a Robust Bayesian Viewpoint, by Mohan Delampady, Purdue University, 1986. (Savage Award Co-Winner)
7. Robust Bayesian Analysis with  $\varepsilon$ -Contaminated Priors, by S. Sivaganesan, Purdue University, 1986. (Savage Award Co-Winner)
8. Development of Robust Bayes Estimators for a Multivariate Normal Mean, Jean-Francois Angers, Purdue University, 1987.
9. Ranking and Estimation of Exchangeable Means in Balanced and Unbalanced Models: A Bayesian Approach, King-Hoi Fong, Purdue University, 1987.
10. The Estimated Loss Frequentist Approach, Kun-Liang Lu, Purdue University, 1987.
11. Convolution of  $t$ -Densities with Application to Bayesian Inference for a Normal Mean and Scientific Reporting, Tsai-Hung Fan, Purdue University, 1989.
12. Statistical Multiple Integration via Monte Carlo Importance Sampling, Man-Suk Oh, Purdue University, 1989.
13. Bayesian Robustness With Shape-Constrained Priors and Mixture Priors, by Sudip Bose, Purdue University, 1990.
14. Noninformative Priors in Bayesian Analysis, by Ke-Ying Ye, Purdue University, 1990.
15. Numerical Integration in Bayesian Analysis, by Peter Müller, Purdue University, 1991.
16. Bayesian Sequential Reliability for Weibull and Related Distributions, by Dongchu Sun, Purdue University, 1991.
17. Monte Carlo Markov Chain Sampling for Bayesian Computation, with Applications to Constrained Parameter Spaces, by Ming-Hui Chen, Purdue University, 1993.
18. Contributions to Maximum Penalized Likelihood Estimation, by Chunfu Qiu, Purdue University, 1993.
19. Development of Noninformative Priors for Bayesian Analysis, by Ruoyong Yang, Purdue University, 1994.
20. On the Development of Intrinsic Bayes Factors, by Julia Varshavsky, Purdue University, 1995.
21. Contributions to Bayesian Nonparametrics and Bayesian Robustness, by N. Shyamkumar, Purdue University, 1996. (Savage Award Winner)
22. Unified Frequentist and Bayesian Testing of Precise Hypotheses in Fixed Samples and Sequential Settings, by Yinping Wang, Indiana University and Purdue University at Indianapolis, 1996.

23. Default Bayesian Analysis of Mixture Models, by Chimei Shui, Purdue University, 1996.
24. Unified Bayesian and Conditional Frequentist Testing Procedures, by Sarat Dass, Purdue University, 1998.
25. Semiparametric Bayesian Analysis : Selection Models and Meteorological Applications, by Jaeyong Lee, Purdue University, 1998.
26. Development of Conventional Prior Distributions for Model Comparisons, by Jose-Miguel Perez, Purdue University, 1998.
27. Bayesian and Empirical Bayesian Model Selection, by Nitai Mukhopadhyay, Purdue University, 2000.
28. Choice of Priors for Hierarchical Models: Admissibility and Computation, by Dejun Tang, Purdue University, 2001.
29. Problems on the Bayesian/Frequentist Interface, by Rui Paulo, Duke University, 2002.
30. Bayesian Stochastic Computation, with Application to Model Selection and Inverse Problems, by German Molina, Duke University, 2003.
31. Bayesian Functional Data Analysis for Computer Model Validation, by Fei Liu, Duke University, 2007.
32. Bayesian Adjustment for Multiplicity, by James Scott, Duke University, 2009. (Savage Award Winner.)
33. Development and Implementation of Bayesian Computer Model Emulators, by Danilo Lopes, Duke University, 2011.
34. Bayesian Modeling Using Latent Structures, by Xiaojing Wang, Duke University, 2012.
35. Interfaces Between Bayesian and Frequentist Multiple Testing, by Shih-Han Chang, Duke University, 2015.
36. Robust Uncertainty Quantification and Scalable Computation for Computer Models with Massive Output, by Mengyang Gu, Duke University, 2016.

### **Publications – Books, Monographs, and Special Volumes**

1. *Statistical Decision Theory: Foundations, Concepts, and Methods*. Springer–Verlag, New York, 1980.
2. Editor (with S.S. Gupta) of *Statistical Decision Theory and Related Topics III*, Volumes 1 and 2. Academic Press, New York, 1982.
3. *The Likelihood Principle: A Review and Generalizations* (with R. Wolpert), Institute of Mathematical Statistics Monograph Series, 1984.
4. *Statistical Decision Theory and Bayesian Analysis*, Springer–Verlag, New York, 1985.
5. Editor (with S.S. Gupta) of *Statistical Decision Theory and Related Topics IV*, Volumes 1 and 2, Springer–Verlag, New York, 1987.
6. *The Likelihood Principle: A Review and Generalizations* (2nd edition, with R. Wolpert), IMS Monograph Series, Hayward, California, 1988.
7. Editor (with J. M. Bernardo, A. P. Dawid, and A. F. M. Smith) of *Bayesian Statistics 4*, Oxford University Press, London, 1992.
8. Editor (with S.S. Gupta) of *Statistical Decision Theory and Related Topics V*, Springer–Verlag, New York, 1994.

9. Editor of the *Special Issue on Bayesian Analysis*, *J. Statist. Planning and Inference* 40, Number 2/3, pp. 161-389, 1994.
10. Editor (with J. M. Bernardo, A. P. Dawid, and A. F. M. Smith) of *Bayesian Statistics 5*, Oxford University Press, London, 1996.
11. Editor (with B. Betro, E. Moreno, L. Pericchi, F. Ruggeri, G. Salinetti, and L. Wasserman) of *Bayesian Robustness*, Lecture Notes in Statistics Volume 29, Institute of Mathematical Statistics, Hayward, 1996.
12. Editor (with J. M. Bernardo, A. P. Dawid, and A. F. M. Smith) of *Bayesian Statistics 6*, Oxford University Press, London, 1999.
13. Editor (with J.M. Bernardo, M.J. Bayarri, A.P. Dawid, D. Heckerman, A.F.M. Smith and M. West) of *Bayesian Statistics 7*, Oxford University Press, Oxford, 2003.
14. Editor (with J.M. Bernardo, M.J. Bayarri, A.P. Dawid, D. Heckerman, A.F.M. Smith and M. West) of *Bayesian Statistics 8*, Oxford University Press, Oxford, 2007.
15. Editor (with T. Tony Cai, and Iain M. Johnstone) of *Borrowing strength: theory powering applications: A Festschrift for Lawrence D. Brown*, Institute of Mathematical Statistics Collections, Volume 6, Beachwood, Ohio, 2010.
16. Editor (with J.M. Bernardo, M.J. Bayarri, A.P. Dawid, D. Heckerman, A.F.M. Smith and M. West) of *Bayesian Statistics 9*, Oxford University Press, Oxford, 2011.

#### Publications — Articles

1. Berger, J. (1976). Inadmissibility results for generalized Bayes estimators of coordinates of a location vector. *Ann. Statist.*, **4**, 302–333.
2. Berger, J. (1976). Admissibility results for generalized Bayes estimators of coordinates of a location vector. *Ann. Statist.*, **4**, 334–356.
3. Berger, J. (1976). Admissible minimax estimation of a multivariate normal mean with arbitrary quadratic loss. *Ann. Statist.*, **4**, 223–226.
4. Berger, J. (1975). Minimax estimation of location vectors for a wide class of densities. *Ann. Statist.*, **3**, 1318–1328.
5. Berger, J. (1976). Tail minimaxity in location vector problems and its applications. *Ann. Statist.*, **4**, 33–50.
6. Berger, J. and Bock, M. E. (1976). Combining independent normal mean estimation problems with unknown variances. *Ann. Statist.*, **4**, 642–648.
7. Berger, J. (1976). Minimax estimation of a multivariate normal mean under arbitrary quadratic loss. *J. Multivariate Anal.*, **6**, 256–264.
8. Berger, J. and Bock, M. E. (1976). Eliminating singularities of Stein-type estimators of location vectors. *J. Roy. Statist. Soc., B*, **38**, 166–170.
9. Berger, J. (1976). Inadmissibility results for the best invariant estimator of two coordinates of a location vector. *Ann. Statist.*, **4**, 1065–1076.
10. Berger, J. and Bock, M. E. (1977). Improved minimax estimators of normal mean vectors for certain types of covariance matrices. S.S. Gupta and D.S. Moore (Eds.) *Statistical Decision Theory and Related Topics II*, Academic Press.

11. Berger, J., Bock, M. E., Brown, L. D., Casella, G., and Gleser, L. (1977). Minimax estimation of a normal mean vector for arbitrary quadratic loss and unknown covariance matrix. *Ann. Statist.*, **5**, 763–771.
12. Berger, J. (1978). Minimax estimation of a multivariate normal mean under polynomial loss. *J. Multivariate Anal.*, **8**, 173–180.
13. Berger, J. (1980). A robust generalized Bayes estimator and confidence region for a multivariate normal mean. *Ann. Statist.*, **8**, 716–761.
14. Berger, J. and Srinivasan, C. (1978). Generalized Bayes estimators in multivariate problems. *Ann. Statist.*, **6**, 783–801.
15. Berger, J. (1979). Multivariate estimation with nonsymmetric loss functions. *Optimizing Methods in Statistics*. J.S. Rustagi (ed.). Academic Press, New York.
16. Berger, J. (1980). Improving on inadmissible estimators in continuous exponential families with applications to simultaneous estimation of gamma scale parameters. *Ann. Statist.*, **8**, 545–571.
17. Berger, J. (1980). A modification of Brown’s technique for proving inadmissibility. *Recent Developments in Statistical Inference and Data Analysis*. North–Holland, Amsterdam.
18. Berger, J., Berliner, L. M., and Zaman, A. (1982). General admissibility and inadmissibility results for estimation in a control problem. *Ann. Statist.* **10**, 838–856.
19. Berger, J. (1982). Selecting a minimax estimator of a multivariate normal mean. *Ann. Statist.* **10**, 81–92.
20. Berger, J. and Dey, D. (1983). Combining coordinates in simultaneous estimation of normal means. *J. Statist. Planning and Inference* **8**, 143–160.
21. Berger, J. (1982). Bayesian robustness and the Stein effect. *J. Amer. Statist. Assoc.* **77**, 358–368.
22. Berger, J. and Haff, L. (1983). A class of minimax estimators of a normal mean vector for arbitrary quadratic loss and unknown covariance matrix. *Statistics and Decisions* **1**, 105–129.
23. Berger, J. and Wolpert, R. (1983). Estimating the mean function of a Gaussian process and the Stein effect. *J. Multivariate Analysis* **13**, 401–424.
24. Berger, J. (1983). Estimation in continuous exponential families: Bayesian estimation subject to risk restrictions and inadmissibility results. *Statistical Decision Theory and Related Topics III* (S.S. Gupta and J. Berger Eds.). Academic Press, New York.
25. Wolpert, R. and Berger, J. (1983). Incorporating prior information in minimax estimation of the mean of a Gaussian process. *Statistical Decision Theory and Related Topics III* (S. S. Gupta and J. Berger Eds.). Academic Press, New York.
26. Berger, J. (1984, 1995) The Robust Bayesian Viewpoint. In *Robustness in Bayesian Statistics* (J. Kadane ed.). North–Holland, Amsterdam, 1984. Reprinted in *The International Library of Critical Writings in Econometrics and Bayesian Inference* (N. Polson and G. Tiao, Eds.). Elgar Publishing, Cheltenham (1995).

27. Dey, D. and Berger, J. (1983). On truncation of shrinkage estimators in simultaneous estimation of normal means. *J. Amer. Statist. Assoc.* **78**, 865–869.
28. Berger, J. (1985). Minimax Estimation. In the *Encyclopedia of Statistical Sciences*, S. Kotz and N. L. Johnson (Eds.). Wiley, New York.
29. Berger, J. (1988). The Stein Effect. In the *Encyclopedia of Statistical Sciences*, S. Kotz and N. L. Johnson (Eds.). Wiley, New York.
30. Hui, S. and Berger, J. (1983). Empirical Bayes estimation of rates in longitudinal studies. *J. Amer. Statist. Assoc.* **78**, 753–760.
31. Berger, J. (1985). Bayesian Salesmanship. In *Bayesian Inference and Decision Techniques with Applications: Essays in Honor of Bruno deFinetti*, P.K. Goel and A. Zellner (Eds.), North-Holland, Amsterdam.
32. Berger, J. and Dey, D. (1985). Truncation of shrinkage estimators of normal means in the nonsymmetric case. In *Multivariate Analysis VI* (P.R. Krishnaiah ed.), North-Holland, Amsterdam.
33. Berger, J. (1985). In defense of the Likelihood Principle: axiomatics and coherency. In *Bayesian Statistics II* (J.M. Bernardo, M.H. DeGroot, D.V. Lindley, and A.F.M. Smith (Eds.)), North-Holland, Amsterdam.
34. Berger, J. and Berliner, L. M. (1986). Robust Bayes and empirical Bayes analysis with  $\varepsilon$ -contaminated priors. *Ann. Statist.* **14**, 461–486.
35. Berger, J. and Berliner, L. M. (1985). Bayesian input in Stein estimation, and a new minimax empirical Bayes estimator. *Journal of Econometrics* **25**, 87–108.
36. Berger, J. (1985). The Frequentist viewpoint and conditioning. In *Proceedings of the Berkeley Conference in honor of Jack Kiefer and Jerzy Neyman*. (L. Le Cam and R. Olshen Eds.). Wadsworth, Belmont.
37. Berger, J. (1985). A Review of Jack Kiefer’s Work on Conditional and Estimated Confidence. *Collected Works of Jack Kiefer*, Supplementary Volume, 48–56 (L. D. Brown, J. Sacks, and I. Olkin Eds.). Springer-Verlag, New York.
38. Berger, J. and Sellke, T. (1987, 1996). Testing of a point null hypothesis: The irreconcilability of significance levels and evidence (with Discussion). *J. Amer. Statist. Assoc.* **82**, 112–139. (Reprinted in *Foundations of Probability, Econometrics and Economic Games*, O. F. Hamouda and J. C. R. Rowley (Eds.), Edward Elgar Publishing, Cheltenham, 1996.)
39. Angers, J. F. and Berger, J. (1986). The Stein effect and Bayesian analysis: A reexamination. *Commun. in Statist.* **15**, 2005–2024.
40. Berger, J. (1986). Are  $P$ -values reasonable measures of accuracy? In *Pacific Statistical Congress*, I. Francis et. al. (Eds.). North-Holland, Amsterdam.
41. DasGupta, A. and Berger, J. (1986). Estimation of multiple gamma scale-parameters: Bayes estimation subject to uniform domination. *Commun. in Statist.* **15**, 2065–2086.
42. Berger, J. and Berry, D. (1988). Statistical analysis and the illusion of objectivity. *American Scientist*, **76**, 159–165.

43. Berger, J. (1987). Statistical decision theory. In *The New Palgrave*, J. Eatwell, M. Milgate, and P. Newman (Eds.). Macmillan Press, London.
44. Berger, J. (1987). Sequential analysis. In *The New Palgrave*, J. Eatwell, M. Milgate, and P. Newman (Eds.). Macmillan Press, London.
45. Berger, J. (1987). Randomization. In *The New Palgrave*, J. Eatwell, M. Milgate, and P. Newman (Eds.). Macmillan Press, London.
46. Berger, J. and Berry, D. (1988). The relevance of stopping rules in statistical inference (with Discussion). In *Statistical Decision Theory and Related Topics IV*. Springer-Verlag, New York.
47. Berger, J. and Chen, S. Y. (1987). Minimavity of empirical Bayes estimators derived from subjective hyperpriors. In *Advances in Multivariate Statistical Analysis* (A. K. Gupta, ed.), 1–12. D. Reidel, New York.
48. Berger, J. and Deely, J. (1988). A Bayesian approach to ranking and selection of related means with alternatives to AOV methodology. *J. Amer. Statist. Assoc.* **83**, 364–373.
49. Berger, J. and Delampady, M. (1987). Testing precise hypotheses (with Discussion). *Statist. Science* **2**, 317–352.
50. Delampady, M. and Berger, J. (1990). Lower bounds on posterior probabilities for multinomial and chi-squared tests. *Ann. Statist.* **18**, 1295–1316.
51. Sivaganesan, S. and Berger, J. (1989). Ranges of posterior measures for priors with unimodal contaminations. *Ann. Statist.* **17**, 868–889.
52. Berger, J. and O’Hagan, A. (1988). Ranges of posterior probabilities for unimodal priors with specified quantiles. *Bayesian Statistics 3* (J. M. Bernardo et. al., Eds.), Oxford University Press, Oxford.
53. Berger, J. (1990). Robust Bayesian analysis: sensitivity to the prior. *J. Statist. Planning and Inference* **25**, 303–328.
54. O’Hagan, A. and Berger, J. (1988). Ranges of posterior probabilities for quasi-unimodal priors with specified quantiles. *J. Amer. Statist. Assoc.* **83**, 503–508.
55. Berger, J. and Bernardo, J. M. (1989). Estimating a product of means: Bayesian analysis with reference priors. *J. Amer. Statist. Assoc.* **84**, 200–207.
56. Lu, K. L. and Berger, J. (1989). Estimation of normal means: frequentist estimation of loss. *Ann. Statist.* **17**, 890–906.
57. Berger, J. (1988). An alternative: the estimated confidence approach. Discussion of G. Casella’s “Conditionally acceptable frequentist solutions”, in *Statistical Decision Theory and Related Topics IV*, Springer-Verlag, New York.
58. Lu, K. L. and Berger, J. (1989). Estimated confidence procedures for multivariate normal means. *J. Statist. Planning and Inference* **23**, 1–20
59. Berger, J., Bernardo, J. M. and Mendoza, M. (1989). On priors that maximize expected information. In *Recent Developments In Statistics and Their Applications* (J. Klein and J.C. Lee, Eds.), Freedom Academy Publishing, Seoul, pp. 1–20.

60. Angers, J. F. and Berger, J. (1991). Robust hierarchical Bayes estimation of exchangeable means. *Canadian J. of Statistics* **19**, 39–56.
61. Berger, J. and Robert, C. (1990). Subjective hierarchical Bayes estimation of a multivariate normal mean: on the frequentist interface. *Ann. Statist.* **18**, 617–651.
62. Berger, J. and Bernardo, J. M. (1992). Ordered group reference priors with application to the multinomial problem. *Biometrika* **79**, 25–38.
63. Berger, J. and Bernardo, J. M. (1992). Reference priors in a variance components problem. In *Bayesian Analysis in Statistics and Econometrics* (P. Goel and N.S. Iyengar, Eds.), pp. 177–194, Springer–Verlag, New York.
64. Fan, T. H. and Berger, J. (1990). Exact convolution of  $t$ -distributions, with application to Bayesian inference for a normal mean with  $t$  prior distributions. *J. Statist. Computation and Simulation*, **36**, 209–228.
65. Oh, M. S. and Berger, J. (1992). Adaptive importance sampling in Monte Carlo integration. *J. Statist. Comput. Simul.* **41**, 143–168.
66. Berger, J. (1990). On the inadmissibility of unbiased estimators. *Statistics and Probability Letters* **9**, 381–384.
67. Fan, T. H. and Berger, J. (1991). Behavior of the posterior distribution and inferences for a normal mean with  $t$  prior distributions. *Statistics and Decisions* **10**, 99–120.
68. Fong, K. H. and Berger, J. (1993). Ranking, estimation and hypothesis testing in unbalanced models — a Bayesian approach. *Statistics and Decisions* **11**, 1–24.
69. Ye, K. Y. and Berger, J. (1991). Noninformative priors for inferences in exponential regression models. *Biometrika*, **78**, 645–656.
70. Berger, J. and Mortera, J. (1991). Bayesian analysis with limited communication. *J. Statist. Planning and Inference* **28**, 1–24.
71. Sivaganesan, S. and Berger J. (1993). Robust Bayesian analysis of the binomial empirical Bayes problem. *Canadian J. Statist.* **21**, 107–119.
72. Berger, J. (1992). A comparison of minimal Bayesian tests of precise hypotheses. *Rassegna di Metodi Statistici ed Applicazioni*, **7**, 43–78. Pitagora Editrice, Bologna.
73. Berger, J. and Mortera, J. (1991). Interpreting the stars in precise hypothesis testing. *International Statistical Review*, **59**, 337–353.
74. Berger, J. and Jefferys, W. (1992). The application of robust Bayesian analysis to hypothesis testing and Occam’s razor. *Journal of the Italian Statistical Society*, **1**, 17–32.
75. Berger, J. and Bernardo, J. (1992). On the development of the reference prior method. *Bayesian Statistics IV* (J.M. Bernardo, et al., Eds.), pp. 35–60, Oxford Univ. Press, Oxford.
76. Oh, M. S. and Berger, J. (1993). Integration of multimodal functions by Monte Carlo importance sampling. *J. Amer. Statist. Assoc.*, **88**, 450–456.
77. Sun, D. and Berger, J. (1994). Bayesian sequential reliability for Weibull and related distributions. *Annals of the Institute of Statist. Math.*, **46**, 221–249.

78. Jefferys, W. and Berger, J. (1992). Sharpening Ockham's razor on a Bayesian strop. *American Scientist*, **80**, 64–72.
79. Berger, J. and Sun, D. (1993). Bayesian analysis for the poly-Weibull distribution. *J. Amer. Statist. Assoc.*, **88**, 1412–1418.
80. Andrews, R., Berger, J. and Smith, M. (1993). Bayesian estimation of fuel economy potential due to technology improvements. In *Case Studies in Bayesian Statistics* (C. Gatsonis, et. al., Eds.), pp. 1–77. Springer-Verlag, New York.
81. Sun, D. and Berger, J. (1993). Recent developments in Bayesian sequential reliability demonstration testing. In *Advances in Reliability*, A. Basu (ed.), pp. 379–394. North-Holland, Amsterdam.
82. Berger, J. and Yang, R. (1994). Noninformative priors and Bayesian testing for the AR(1) model. *Econometric Theory*, **10**, 461–482.
83. Berger, J. (1993). The present and future of Bayesian multivariate analysis. In *Multivariate Analysis: Future Directions*, C. R. Rao (Ed.), pp. 25–53. North-Holland, Amsterdam.
84. Berger, J., Brown, L. and Wolpert, R. (1994). A unified conditional frequentist and Bayesian test for fixed and sequential hypothesis testing. *Ann. Statist.* **22**, 1787-1807.
85. Berger, J. and Pericchi, L. (1996). The intrinsic Bayes factor for model selection and prediction. *J. Amer. Statist. Assoc.*, **91**, 109-122.
86. Berger, J. and Chen, M. H. (1993). Predicting retirement patterns: prediction for a multinomial distribution with constrained parameter space. *The Statistician*, **42**, 427–443.
87. Berger, J. and Mortera, J. (1994). Robust Bayesian hypothesis testing in the presence of nuisance parameters. *J. Statist. Planning and Inference*, **40**, 357-373.
88. Bayarri, M. J. and Berger, J. (1994). Robust Bayesian bounds for outlier detection. In *Recent Advances in Statistics and Probability*, J. Pérez Vilaplana and M.L. Puri (Eds.), pp. 175-190. VSP-International Science Publishers, Zeist, The Netherlands.
89. Berger, J. and Moreno, E. (1994). Bayesian robustness in bidimensional models: prior independence. *J. Statist. Planning and Inference*, **40**, 161-176.
90. Andrews, R., Berger, J. and Smith, M. (1993, 1995). Bayesian estimation of manufacturing effects in a fuel economy model. *J. of Applied Econometrics*, **8**, S5–S18 (1993). Reprinted in *Econometric Inference Using Simulation Techniques* (H. Van Dijk, et. al., Eds.), pp. 21-34, Wiley, Chichester.
91. Bayarri, M. J. and Berger, J. (1994). Applications and limitations of robust Bayesian bounds and Type II MLE. In *Statistical Decision Theory and Related Topics V*, S. S. Gupta and J. Berger (Eds.), pp. 121–134. Springer-Verlag, New York.
92. Sivaganesan, S., Berliner, L. M. and Berger, J. (1993). Optimal robust credible sets for contaminated priors. *Statist. and Prob. Letters*, **18**, 383-388.
93. Yang, R. and Berger, J. (1994). Estimation of a covariance matrix using the reference prior. *Ann. Statist.* **22**, 1195-1211.



94. Bayarri, M. J. and Berger, J. (1998). Robust Bayesian analysis of selection models. *Ann. Statist.*, **26**, 645–659.
95. Berger, J. and Sun, D. (1995). Bayesian inference for a class of Poly-Weibull distributions. In *Bayesian Analysis in Statistics and Econometrics*, D. A. Berry, et. al. (Eds.), 101-114, Wiley, New York.
96. Berger, J. (1994). An overview of robust Bayesian analysis (with Discussion). *Test*, **3**, 5–124.
97. Berger, J. and Pericchi, L. (1996). The intrinsic Bayes factor for linear models. *Bayesian Statistics V*, J.M. Bernardo, et. al. (Eds.), 23–42, Oxford University Press, Oxford.
98. Berger, J. and Strawderman, W. E. (1996). Choice of hierarchical priors: admissibility in estimation of normal means. *Ann. Statist.* **24**, 931–951.
99. Berger, J. and Salinetti, G. (1995). Approximation of Bayes decision problems: the epigraphical approach. *Ann. Operations Research* **56**, 1-13.
100. Berger, J., Boukai, B. and Wang, Y. (1997). Unified frequentist and Bayesian testing of a precise hypothesis (with discussion). *Statistical Science*, **12(3)**, 133–160.
101. Fan, T. H. and Berger, J. (2000). Robust Bayesian displays for standard inferences concerning a normal mean. *Computational Statistics and Data Analysis*, **33**, 381–399.
102. Berger, J. and Pericchi, L. (1996). On the justification of default and intrinsic Bayes factors. In *Modeling and Prediction*, J. C. Lee, W. Johnson and A. Zellner (Eds.), 276–293. Springer-Verlag, New York.
103. Berger, J. (1995). Recent developments and applications of Bayesian analysis. In *Proceedings of the 50th Session of the International Statistical Institute*, ISI Publications, Voorburg.
104. Berger, J. and Rios Insua, D. (1998). Recent developments in Bayesian inference with applications in hydrology. In *Statistical and Bayesian Methods in Hydrological Sciences*, E. Parent et. al. (Eds.). UNESCO Press, Paris, 43–62.
105. Sun, D. and Berger, J. (1998). Reference priors with partial information. *Biometrika*, **85**, 55–71.
106. Berger, J., Liseo, B. and Wolpert, R. (1999). Integrated likelihood methods for eliminating nuisance parameters (with discussion). *Statistical Science*, **14**, 1–28.
107. Berger, J. (1999). Bayes factors. In the *Encyclopedia of Statistical Sciences*, Update Volume 3, S. Kotz, et. al. (Eds.). Wiley, New York, 20–29.
108. Berger, J., Philippe, A., and Robert, C. (1998). Estimation of quadratic functions: noninformative priors for non-centrality parameters. *Statistica Sinica*, **8**, 359–376.
109. Berger, J., Pericchi, L, and Varshavsky, J. (1998). Bayes factors and marginal distributions in invariant situations. *Sankhyā*, **A 60**, 307–321.
110. Berger, J., Boukai, B. and Wang, Y. (1999). Simultaneous Bayesian-frequentist sequential testing of nested hypotheses. *Biometrika*, **86**, 79–92.

111. Berger, J. (1997). Some recent developments in Bayesian analysis, with astronomical illustrations (with discussion). In *Statistical Challenges in Modern Astronomy II*, G. H. Babu and E. D. Feigelson (Eds.), 15–39. Springer, New York.
112. Berger, J., Boukai, B. and Wang, Y. (1997). Properties of unified Bayesian-frequentist tests. In *Advances in Statistical Decision Theory and Applications*, S. Panchapakesan and N. Balakrishnan (Eds.), 207–223. Birkhauser, Boston.
113. Berger, J. and Boukai, B. (1997). Unification of frequentist and Bayesian testing. In *Proceedings of the 51st Session of the International Statistical Institute*, ISI Publications, Voorburg.
114. Berger, J. and Pericchi, L. (1998). Accurate and stable Bayesian model selection: the median intrinsic Bayes factor. *Sankhyā*, **B 60**, 1–18.
115. Berger, J. and Pericchi, L. (1998). On criticisms and comparisons of default Bayes factors for model selection and hypothesis testing (with discussion). In *Proceedings of the Workshop on Model Selection*, Rassegna di Metodi Statistici ed Applicazioni, Pitagora Editrice, Bologna.
116. Berger, J. and Mortera, J. (1999). Default Bayes factors for non-nested hypothesis testing. *J. Amer. Statist. Assoc.*, **94**, 542–554.
117. Bayarri, M.J. and Berger, J. (1999). Quantifying surprise in the data and model verification. In *Bayesian Statistics 6*, J.M. Bernardo, et. al. (Eds.), Oxford University Press, Oxford, 53–82.
118. Bayarri, M.J. and Berger, J. (2000). P-values for composite null models (with discussion). *J. Amer. Statist. Assoc.*, **95**, 1127–1142.
119. Dass, S. and Berger, J. (2003). Unified Bayesian and conditional frequentist testing of composite hypotheses. *Scandinavian Journal of Statistics*, **30**, 193–210.
120. Berger, J. and Guglielmi, A. (2001). Bayesian testing of a parametric model versus nonparametric alternatives. *J. Amer. Statist. Assoc.*, **96**, 174–184.
121. Sellke, T., Bayarri, M.J. and Berger, J. (2001). Calibration of P-values for testing precise null hypotheses. *The American Statistician*, **55**, 62–71.
122. Lee, J. and Berger, J. (2001). Semiparametric Bayesian analysis of selection models. *J. Amer. Statist. Assoc.*, **96**, 1397–1409.
123. Berger, J. (2000). Bayesian analysis: a look at today and thoughts of tomorrow. *J. Amer. Statist. Assoc.*, **95**, 1269–1276.
124. Berger, J., Ghosh, J.K., and Mukhopadhyay, N. (2003). Approximations and consistency of Bayes factors as model dimension grows. *Journal of Statistical Planning and Inference*, **112**, 241–258.
125. Pérez, J.M. and Berger, J. (2002). Expected posterior prior distributions for model selection. *Biometrika*, **89**, 491–512.
126. Berger, J. and Pericchi, L. (2001). Objective Bayesian methods for model selection: introduction and comparison (with Discussion). In *Model Selection*, P. Lahiri, ed., Institute of Mathematical Statistics Lecture Notes – Monograph Series, volume 38, Beachwood Ohio, 135–207.

127. Berger, J., De Oliveira, V. and Sanso, B. (2001). Objective Bayesian analysis of spatially correlated data. *J. Amer. Statist. Assoc.*, **96**, 1361–1374.
128. Lee, J. and Berger, J. (2003). Space-time modeling of vertical ozone profiles. *Environmetrics* **14**, 617–639.
129. Berger, J., Ríos Insua, D. and Ruggeri, F. (2000). Bayesian robustness. In *Robust Bayesian Analysis*, D. Ríos Insua and F. Ruggeri, eds., Springer-Verlag, New York, 1–31.
130. Pérez, J.M. and Berger, J. (2001). Analysis of mixture models using expected posterior priors, with application to classification of gamma ray bursts. In *Bayesian Methods, with applications to science, policy and official statistics*, E. George and P. Nanopoulos, eds., Official Publications of the European Communities, Luxembourg, 401–410.
131. Jefferys, W., Barnes, T., Rodrigues, R., Berger, J. and Müller, P. (2001). Model selection for Cepheid star oscillations. In *Bayesian Methods, with applications to science, policy and official statistics*, E. George and P. Nanopoulos, eds., Official Publications of the European Communities, Luxembourg, 243–252.
132. Mossman, D. and Berger, J. (2001). Intervals for post-test probabilities: a comparison of five methods. *Medical Decision Making* **21**, 498–507.
133. Berger, J., Jefferys, W., Müller, P., and Barnes, T. (2003). Bayesian model selection and analysis for Cepheid star oscillations (with discussion). *Statistical Challenges in Modern Astronomy III*, G. H. Babu and E. D. Feigelson (Eds.). Springer, New York, 71–84.
134. Bayarri, M.J., Berger, J., and Molina, G. (2002). Fast simulators for assessment and propagation of model uncertainty. In *Sensitivity Analysis of Model Output III*, P. Prado and R. Bolado (Eds.), CIEMAT, Madrid, 219–225.
135. Barbieri, M. and Berger, J. (2004). Optimal predictive model selection. *Ann. Statist.*, **32**, 870–897.
136. Berger, J. (2003). Could Fisher, Jeffreys and Neyman have agreed on testing (with Discussion)? *Statistical Science*, **18**, 1–32.
137. Berger, J. and Pericchi, L. (2004). Training samples in objective Bayesian model selection. *Ann. Statist.*, **32**, 841–869.
138. Bayarri, M.J., Berger, J.O., Higdon, D., Kennedy, M.C., Kottas, A., Paulo, R., Sacks, J., Cafeo, J.A., Cavendish, J. and Tu, J. (2002). A framework for validation of computer models. In *Proceedings of the Workshop on Foundations for V&V in the 21st Century*, D. Pace and S. Stevenson (Eds.). Society for Modeling and Simulation International.
139. Easterling, R.G. and Berger, J. O. (2002). Statistical foundations for the validation of computer models. In *Proceedings of the Workshop on Foundations for V&V in the 21st Century*, D. Pace and S. Stevenson (Eds.). Society for Modeling and Simulation International.
140. Barnes III, T., Jefferys, W., Berger, J., Müller, P., Orr, K., and Rodriguez, R. (2003). A Bayesian analysis of the Cepheid distance scale. *Astrophysical Journal*, **592**, 539–554.

141. Molina, G., Bayarri, M.J., and Berger, J. (2005). Statistical inverse analysis for a network microsimulator. *Technometrics*, **47**, 388–398.
142. Scott, J. and Berger, J. (2005). An exploration of aspects of Bayesian multiple testing. *Journal of Statistical Planning and Inference*, **136**, 2144–2162.
143. Bayarri, M.J. and Berger, J. (2004). The interplay between Bayesian and frequentist analysis. *Statistical Science*, **19**, 58–80.
144. Bayarri, M.J., Berger, J., Molina, G., Roupail, N.M., and Sacks, J. (2004). Assessing uncertainties in traffic simulation: a key component in model calibration and validation. *Transportation Research Record* **1876**, 32–40.
145. Berger, J., Strawderman, J., and Tang, D. (2005). Posterior propriety and admissibility of hyperpriors in normal hierarchical models. *Annals of Statistics*, **33**, 606–646.
146. Berger, J. (2004). Statistical and Applied Mathematical Sciences Institute. Entry in *Encyclopedia of Statistical Sciences, Second Edition*, Eds: Balakrishnan, Campbell, and Vidakovic, Wiley & Sons, NJ, In Print.
147. Berger, J. and Molina, G. (2004). Some recent developments in Bayesian variable selection. In *Bayesian Inference and Maximum Entropy Methods in Science and Engineering*, R. Fischer, R. Preuss and U. von Toussaint (eds.), AIP Conference Proceedings **735**, 417–428.
148. Berger, J. and Molina, G. (2005). Posterior model probabilities via path-based pairwise priors. *Statistica Neerlandica*, **59**, 3–15.
149. Mukhopadhyay, N., Ghosh, J., and Berger, J. (2005). Some Bayesian predictive approaches to model selection. *Statistics and Probability Letters*, **73**, 369–379.
150. Bayarri, M.J., Berger, J., Paulo, R., Sacks, J., Cafeo, J., Cavendish, J., Lin, C. and Tu, J. (2007). A framework for validation of computer models. *Technometrics*, **49**, 138–154.
151. Bayarri, M.J., Berger, J., Kennedy, M., Kottas, A., Paulo, R., Sacks, J., Cafeo, J., Lin, C., and Tu, J. (2009). Predicting Vehicle Crashworthiness: Validation of Computer Models for Functional and Hierarchical Data. *Journal of the American Statistical Association*, **104**, 929–943.
152. Liang, F., Paulo, R., Molina, G., Clyde, M. and Berger, J. (2008). Mixtures of g-priors for Bayesian variable selection. *J. American Statist. Assoc.*, **103**, 410–423.
153. Berger, J. (2006). The case for objective Bayesian analysis (with discussion). *Bayesian Analysis* **1**, 385–402.
154. Bayarri, M.J., Berger, J., García-Donato, G., Liu, F., Palomo, J., Paulo, R., Sacks, J., Walsh, D., Cafeo, J., and Parthasarathy, R. (2007). Computer model validation with functional output. *Annals of Statistics* **35**, 1874–1906.
155. Berger, J. and Sun, D. (2008). Objective priors for a bivariate normal model with multivariate generalizations. *Annals of Statistics*, **36**, 963–982.
156. Sun, D. and Berger, J. (2007). Objective Bayesian analysis for the multivariate normal model. In *Bayesian Statistics 8*, 525–547, J.M. Bernardo, et. al. (Eds.), Oxford University Press, Oxford.

157. Berger, J. (2007). A statistician's perspective on astrostatistics. In *Statistical Challenges in Modern Astronomy IV*, G. H. Babu and E. D. Feigelson (Eds.), 373–381, Springer, New York.
158. Berger, J, Bernardo, J. and Sun, D. (2009). The formal definition of reference priors. *Annals of Statistics*, **37**, 905–938.
159. Liu, F., Bayarri, M.J., Berger, J., Paulo, R. and Sacks, J. (2008). A Bayesian analysis of the thermal challenge problem. *Computer Methods in Applied Mechanics and Engineering*, **197**, 2457–2466.
160. Berger, J. (2008). Sequential analysis. In *The New Palgrave Dictionary of Economics*, Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008.
161. Berger, J. (2008). Statistical decision theory. In *The New Palgrave Dictionary of Economics*, Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan, 2008.
162. Sun, D. and Berger, J. (2008). Objective Bayesian analysis under sequential experimentation. In *Pushing the Limits of Contemporary Statistics: Contributions in Honor of Jayanta K. Ghosh*, B. Clarke and S. Ghosal (Editors), Institute of Mathematical Statistics Collections, Vol. **3**, 19–32.
163. Bayarri, M.J., Berger, J. and Datta, G.S. (2008). Objective Bayes testing of Poisson versus inflated Poisson models. In *Pushing the Limits of Contemporary Statistics: Contributions in Honor of Jayanta K. Ghosh*, B. Clarke and S. Ghosal (Editors), Institute of Mathematical Statistics Collections, Vol. **3**, 105-121.
164. Bayarri, M.J., Berger, J.O. and Molina, G. (2007). Incorporating uncertainties into traffic simulators. In *Recent Advances in Modeling and Simulation Tools for Communication Networks and Services*, A. Nejat Ince and Arnold Bragg (Eds.), 330–347, Springer, New York.
165. Bayarri, M.J., Berger, J.O., Calder, E.S., Dalbey, K. Lunagomez, S. Patra, A.K., Pitman, E.B., Spiller, E.T., Wolpert, R.L. (2009). Using statistical and computer models to quantify volcanic hazards. *Technometrics*, **51**, 402-413.
166. Berger, J. (2008). A comparison of testing methodologies. In the proceedings of the PHYSTAT-LHC Workshop on Statistical Issues for LHC Physics, June 2008, CERN 2008-001, pp. 8–19.
167. Clyde, M. A., Berger, J. O., Bullard, F., Ford, E. B., Jefferys, W. H., Luo, R., Paulo, R., Lored, T. (2007). Current challenges in Bayesian model choice. In *Statistical Challenges in Modern Astronomy IV*, G. H. Babu and E. D. Feigelson (Eds.), 224–240, Springer, New York.
168. Scott, J. and Berger, J. (2010). Bayes and Empirical-Bayes multiplicity adjustment in the variable-selection problem. *Annals of Statistics* **38**, 2587–2619.
169. Liu, F., Bayarri, M.J., and Berger, J. (2009). Modularization in Bayesian analysis, with emphasis on analysis of computer models. *Bayesian Analysis* **4**, 119–150.
170. Berger, J., Bernardo, J., and Sun, D. (2012). Reference priors for discrete parameter spaces. *Journal of the American Statistical Association*, **107**, 636–648.

171. Berger, J. O., Bernardo, J. M. and Sun, D. (2009). Natural induction: An objective Bayesian approach. *Rev. Acad. Sci. Madrid, A* 103, 125-159 (with discussion).
172. Berger, James (2009). Statistical and Applied Mathematical Sciences Institute. *WIREs Computational Statistics*, **1**, 123-127.
173. Kinney, S., Reiter, J., and Berger, J. (2010). Model selection when multiple imputation is used to protect confidentiality in public use data. *Journal of Privacy and Confidentiality*, **2**, 3–19.
174. Gilbert, P., Berger, J., Stablein, D., Becker, S., Essex, M., Hammer, S., Kim, J., and DeGruttola, V. (2011). Statistical interpretation of the RV144 HIV vaccine efficacy trial in Thailand: A case study for statistical issues in efficacy trials. *The Journal of Infectious Diseases*, **203**(7), 969–975.
175. Loredo, T., Berger, J., Chernoff, D., Clyde, M., and Liu, B. (2012). Bayesian methods for analysis and adaptive scheduling of exoplanet observations. *Statistical Methodology*, **9**, 101–114.
176. Wang, X. Berger, J., and Burdick, D. (2013). Bayesian analysis of dynamic item response models in educational testing. *Annals of Applied Statistics* **7**, 126–153.
177. Berger, J., Jefferys, W., and Müller, P. (2012). Bayesian nonparametric shrinkage applied to Cepheid star oscillations. *Statistical Science* **27**, 3–10.
179. Berger, J. (2011). The Bayesian approach to discovery. In *Proceedings of the PHYSTAT 2011 Workshop on Statistical Issues Related to Discovery Claims in Search Experiments and Unfolding*, CERN, Geneva, Switzerland, 17-20 January 2011, H.B. Prosper and L. Lyons (Eds.), CERN-2011-006, pp. 17–26.
178. Bayarri, M.J., Berger, J., Forte, A., and G. García-Donato (2012). Criteria for Bayesian model choice with application to variable selection. *Annals of Statistics* **40**, 1550–1577.
179. Berger, J., Bayarri, M.J. and Pericchi, L.R. (2014). The effective sample size. *Econometric Reviews* **33**, 197–217.
180. Bayarri, J. and Berger, J. (2013). Hypothesis testing and model uncertainty. In *Bayesian Theory and Applications*, Paul Damien, Petros Dellaportas, Nicholas Polson and David Stephens (Eds.), Oxford University Press, 361–400.
181. E. Spiller, M.J. Bayarri, J.O. Berger, E. Calder, A. Patra, E.B. Pitman, and R. Wolpert (2014). Automating emulator construction for geophysical hazard maps. *J. of Uncertainty Quantification* **2**, 126–152.
182. Berger, J., Wang, X. and Shen, L. (2013). A Bayesian approach to subgroup identification. *J. Biopharmaceutical Statistics* **24**, 110–129.
183. Berger, J. (2013). Conditioning is the issue. In *Past, Present and Future of Statistical Science*, COPSS, 253–265.
184. Berger, J., Bernardo, J. and Sun, D. (2015). Overall objective priors, with discussion. *Bayesian Analysis* **10** 189–246.
185. Berger, J. and Pericchi, L. (2015). Bayes Factors. *Wiley StatsRef: Statistics Reference Online* 1–14.

186. M.J. Bayarri, J.O. Berger, E. Calder, A. Patra, E.B. Pitman, E. Spiller, and R. Wolpert (2015). Probabilistic quantification of hazards: a methodology using small ensembles of physics based simulations and statistical surrogates. *International Journal for Uncertainty Quantification* **5**, 297–325.
187. Ogburn, S. E., Berger, J., Calder, E. S., Lopes, D., Patra, A., Pitman, E. B., Rutarindwa, R., Spiller, E., Wolpert, R. L. (2016). Pooling strength amongst limited datasets using hierarchical Bayesian analysis, with application to pyroclastic density current mobility metrics. *Statistics in Volcanology* **2.1**, 1–26.
188. Bayarri, M. J., Benjamin, D., Berger, J. and Sellke, T. (2016). Rejection odds and rejection ratios: a proposal for statistical practice in testing hypotheses. *Journal of Mathematical Psychology* **72**, 90–103.

**Publications: Discussions, Extended Abstracts, Introductions, Book Reviews, Letters**

1. Discussion of “Construction of improved estimators in multivariate estimation for exponential families” by Ghosh, Hwang, and Tsui. *Ann. Statist.* **11**, 368–369. (1983)
2. Discussion of “Parametric empirical Bayes inference: theory and applications” by Carl Morris. *J. Amer. Statist. Assoc.* **78**, 55–57. (1983)
3. Discussions of the following articles in *Bayesian Statistics II* (J.M. Bernardo, M.H. DeGroot, D.V. Lindley, and A.F.M. Smith, Eds.). North–Holland, Amsterdam, 1985.
  - (i) “Ways of specifying prior opinions” by Persi Diaconis.
  - (ii) “Subjective probability modeling with elliptic distributions” by J.M. Dickey and C. Chong–Hong.
  - (iii) “Bayesian analysis of survival curves for cancer patients following treatment” by Bruce Hill.
  - (iv) “Highly informative priors” by E. T. Jaynes.
4. Discussion of “Abraham Wald’s work on aircraft survivability” by M. Mangel and F. Samaniego. *J. Amer. Statist. Assoc.*, **79**, 267–270. (1984)
5. Book review of *Theory of Point Estimation* by E. L. Lehmann. *J. Amer. Statist. Assoc.* **79**, 941–942. (1984)
6. Book review of *Good Thinking: The Foundation of Probability and Its Applications*. by I. J. Good. *J. Amer. Statist. Assoc.* **80**, 232–233. (1985)
7. Discussion of “On the consistency of Bayes estimates” by P. Diaconis and D. Freedman. *Ann. Statist.* **13**, 30–36. (1986)
8. Discussion of “On rereading Jeffreys” by D. Lindley. In *Pacific Statistical Congress* (I. Francis et. al. Eds.). North–Holland, Amsterdam, 1986.
9. Discussion of “The Axioms of Subjective Probability” by Peter Fishburn. *Statistical Science*, **1**, 335–358 (1986).
10. Discussion of “On Principles and Arguments to Likelihood” by M. Evans, D. Fraser, and G. Monette. *Canadian J. of Statist.* **14**, 181–199, (1986).

11. Discussion of “Bayesian variable selection in linear regression” by T. J. Mitchell and J. J. Beauchamp. *J. Amer. Statist. Assoc.* **83**, 1033–1034 (1988).
12. Discussion of “The interface between statistics and the philosophy of science” by I.J. Good. *Statistical Science* **3**, 403–404 (1988).
13. Discussion of “The present position in Bayesian statistics” by D.V. Lindley. *Statist. Science* **5**, 71–75 (1990).
14. Discussion of “Bayesian nonparametric prediction and statistical inference” by Bruce Hill. In *Bayesian Analysis in Statistics and Econometrics* (P. Goel and N.S. Iyengar, Eds.), pp. 76–80. Springer–Verlag, New York (1992).
15. Discussion of “Developments in decision–theoretic variance estimation” by J. Maatta and G. Casella. *Statist. Science* **5**, 102–103 (1990).
16. Discussion of “An ancillarity paradox which appears in multiple linear regression,” by L. Brown. *Ann. Statist.* **18**, 493–496 (1990).
17. Letter: “Comment on Kempthorne (1989)”. *American Statistician* **44**, 187–188 (1990).
18. Extended Abstract: “Bayesian testing of precise hypothesis,” in *Methods of Operations Research 62*, Proceedings of the XIV Symposium on Operations Research, pp. 499–501.
19. Introduction to *Statistical Multiple Integration*, Volume 115 of *Contemporary Mathematics* (1991).
20. Discussion of “Replication and meta–analysis in parapsychology,” by J. Utts. *Statistical Science* **6**, 379–382.
21. Discussions of the following article in *Bayesian Statistics IV* (J.M. Bernardo, et al., Eds.). Oxford University Press, Oxford (1992).
  - (i) M.J. Bayarri’s “A BAD view of weighted distributions and selection models.”
  - (ii) J.K. Ghosh’s “Noninformative Priors.”
  - (iii) J. Hodges’s “Who knows what alternative lurks in the heart of significance tests.”
  - (iv) D. Lindley’s “Is our view of Bayesian statistics too narrow?”
  - (v) R. Royall’s “The elusive concept of statistical evidence.”
  - (vi) L. Wasserman’s “Recent methodological advances in robust Bayesian inference.”
22. Extended Abstract: “Testing precise hypotheses: the conflict between classical and Bayesian approaches,” in *Séminaire de Mathématique Rouen*, Publications de L’Université de Rouen, N° 167, 1991, pp 121–125.
23. Extended Abstract: “A review of Bayesian function estimation,” in *Estimation Fonctionnelle*, Prépublications 91–55, Mathématiques, Université de Paris-Sud, Orsay, pp 71–79.
24. Discussion of “Fractional Bayes factors for model comparison,” by A. O’Hagan. *J. Roy. Statist. Soc. B.* **57**, 130–131.
25. Discussion of “Some issues in the foundations of statistics,” by David Freedman. *Foundations of Science* **1**, 41–44.



26. Discussion of “Modelling and robustness issues in Bayesian time series analysis,” by Mike West. In *Bayesian Robustness*, Berger, et.al.(Eds.), Volume 29 of the Institute of Mathematical Statistics Lecture Note Series, Hayward, California.
27. Letter: Comment on “Simple counterexamples against the conditionality principle,” by I. S. Helland, *American Statistician*, **50**, 382–383.
28. Discussion of “Statistical inference and Monte Carlo algorithms,” by George Casella. *Test*, **5**, 293–295.
29. Discussion of “Why should clinicians care about Bayesian methods,” by Robert A.J. Matthews. *J. Statist. Planning and Inference*, **94**, 65–67.
30. Discussion (with G. Molina) of “ A case study in model selection” by K. Viele, R. Kass, M. Tarr, M. Behrmann and I. Gauthier. To appear in *Case Studies in Bayesian Statistics* (A. Carriquiri, et. al., Eds.). Springer-Verlag, New York, 112–125.

### Consulting Experience

1. In house consulting with colleagues from departments of Agricultural Economics, Agricultural Engineering, Education, Electrical Engineering, Industrial Engineering, Management, and Political Science.
2. Work on discriminant and pattern recognition with the Laboratory for Remote Sensing, West Lafayette.
3. Work on the analysis of longitudinal studies with the Regenstrief Health Center, Indianapolis.
4. Work with the Center for Competency Development, Miami, Florida:
  - (a) Development of Competency profiles for Florida Power and Light Company.
  - (b) Development and analysis of Training Effectiveness profiles for the U.S. Air Force.
5. Work with the Center for Health Policy, Duke University.
6. Work with Allison Transmission on Bayesian quality control.
7. Work with Ford Motor Company on the effect of technological improvements on fuel efficiency and on evaluation and diagnosis of computer simulation models.
8. Work with the National Center for Atmospheric Research on climate signal detection and modelling.
9. Work with General Motors on the validation of complex computer models.
10. Work with MetaMetrics on development of educational assessment tools.