David B. Dunson

CONTACT INFORMATION

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CITIZENSHIP

USA (born in Townsville, Australia)

RESEARCH INTERESTS

Bayes, big data, data science, ecology, epidemiology, genomics, latent structure, machine learning, neuroscience, networks, nonparametrics.

EDUCATION

Emory University, Atlanta, Georgia USA

Ph.D., Biostatistics, May 1997

- Thesis Topic: Statistical Methods for Data with Informative Cluster Size
- School wide top dissertation award in the sciences
- Student paper award, ASA Biopharmaceutical Section
- Distinguished student paper award, International Biometrics Society (ENAR)

Pennsylvania State University, University Park, Pennsylvania USA

B.S., Mathematics, May 1994

- University Scholar's Program
- Academic Full Scholarship
- NSF Fellowship in Plate Tectonics Modeling

SOFTWARE

GitHub repository containing code for our methods: *https://github.com/david-dunson*

HONORS & AWARDS

- Hogg and Craig Lecturer, University of Iowa, April 2024
- Men's 50-54 National Champion 50 & 100 Breaststroke + World Record Mixed 200+ Medley Relay, USMS National Championships, Sarasota, FL, 2023
- Research.com Mathematics Leader Award (Top Scientists in Mathematics), 2023
- Best Paper Award, INFORMS Section on Quality, Statistics and Reliability, 2021
- George W Snedecor Award, COPSS, 2021
- Highly Cited Researcher Award, Web of Science, 2019
- Mitchell Prize, International Society for Bayesian Analysis 2019
- IMS Medallion lecturer, Joint Statistical Meetings, 2019
- David Finney Centenary Lecture, Edinburgh, UK, May 2018
- van Dantzig seminar, Leiden University, Netherlands, March 2018
- John A Lynch lecturer, Notre Dame University, April 2018
- Carnegie Centenary Professor, Scotland, 2018
- Snedecor Lecturer, Iowa State University, May 2018
- Mitchell Prize, International Society for Bayesian Analysis, 2018
- *JASA-T&M* invited paper, Joint Statistical Meetings, Baltimore 2017

- Bradley Lecturer, Department of Statistics, University of Georgia 2017
- Plenary Speaker, International Society for Bayesian Analysis, Cagliari, Italy, June 2016
- Winner DeGroot Prize for best published book in Bayesian statistics, June 2016
- Fellow of the International Society of Bayesian Analysis (ISBA), June 2016
- Editor, *Journal of the Royal Statistical Society Series B*, January 2016-
- Winner, LinkedIn Economic Graph Challenge, May 2015
- Inaugural Speaker, Center for Statistics & Machine Learning, Princeton University, Oct 2014
- Winner of SBP 2014 Grand Data Challenge, 2014
- Hartley Memorial Lecturer, Texas A&M University, October 2014
- Emory University Kutner Distinguished Alumni Award (inaugural winner), 2014
- Arts & Sciences Distinguished Professor of Statistical Science, Duke University, 2013
- Notable Paper Award, International Conference on Artificial Intelligence & Statistics, 2013
- W.J. Youden Award in Interlaboratory Testing, American Statistical Association, 2012
- Top 5% Undergraduate Teaching Course Evaluations, Duke University, 2011
- Distinguished Application Paper Award, 28th International Conference on Machine Learning (ICML), 2011
- Outstanding Alumni Award, Eberly College of Science, Pennsylvania State University, 2011
- **President's Award, Committee of the Presidents of Statistical Societies (COPSS), 2010**
- Myrto Lefkopoulou Distinguished Lecturer, Harvard University, 2010
- Fellow, Institute of Mathematical Statistics, 2010
- L.H. Baker Plenary Speaker, 75th Anniversary Iowa State Statistics Department, 2009
- Visiting Professor, Bocconi University, Milan, Italy, 2008
- Mortimer Spiegelman Award (Top Public Health Statistician Under Age 40), 2007
- Fellow, American Statistical Association, 2007
- Gold Medal for Exceptional Service, US Environmental Protection Agency, 2007
- David Byar Young Investigator Award, American Statistical Association, 2000

Professional Experience

Department of Statistical Science, Duke University, Durham, North Carolina

- *Arts & Sciences Distinguished Professor* **May 2013 to present**
- *Professor* **August 2008 to present**
- *Adjunct Professor* **2006 to 2008**
- *Adjunct Associate Professor* **2000 to 2006**

Department of Mathematics, Duke University

- *Professor* **October 2014 to present**

Department of Electrical and Computer Engineering, Duke University

- *Professor* **September 2012 to 2018**

Department of Biostatistics, University of North Carolina at Chapel Hill

- *Adjunct Associate & Full Professor* **2001 to 2013**

Biostatistics Branch, National Institute of Environmental Health Sciences

- *Senior Investigator (with Tenure)* **2002 to 2008**
- *Tenure Track Investigator* **2000 to 2002**
- *Research Fellow* **1997 to 2000**

Publications

Citations (from Google Scholar)

- Total number of citations = 70,222
- h-index = 95
- h-index since 2018 = 69
- i10-index = 351 (# publications with at least 10 citations)

Journal of the American Statistical Association

- **Dunson, D. B.** and Zhou, H. (2000). A Bayesian model for fecundability and sterility. *Journal of the American Statistical Association* **95**, 1054-1062.
- **Dunson, D. B.** (2003). Dynamic latent trait models for multidimensional longitudinal data. *Journal of the American Statistical Association* **98**, 555-563.
- **Dunson, D. B.** and Colombo, B. (2003). Bayesian modeling of markers of day-specific fertility. *Journal of the American Statistical Association* **98**, 28-37.
- **Dunson, D.B.** (2005). Bayesian semiparametric isotonic regression for count data. *Journal of the American Statistical Association* **100**, 618-627.
- Cai, B. and **Dunson, D.B.** (2007). Bayesian multivariate isotonic regression splines: Applications to carcinogenicity studies. *Journal of the American Statistical Association* **102**, 1158-1171.
- **Dunson, D.B.**, Herring, A.H. and Engel, S.M. (2008). Bayesian selection and clustering of polymorphisms in functionally-related genes. *Journal of the American Statistical Association* **103**, 534-546.
- **Dunson, D.B.**, Herring, A.H. and Siegariz, A.M. (2008). Bayesian inference on changes in response densities over response clusters. *Journal of the American Statistical Association* **103**, 1508-1517.
- **Dunson, D.B.**, Xue, Y. and Carin, L. (2008). The matrix stick breaking process: Flexible Bayes meta analysis. *Journal of the American Statistical Association* **103**, 317-327.
- Rodriguez, A., **Dunson, D.B.** and Gelfand, A.E. (2008). The nested Dirichlet process (with discussion). *Journal of the American Statistical Association* **103**, 1131-1144.
- Bigelow, J. and **Dunson, D.B.** (2009). Bayesian semiparametric joint models for functional predictors. *Journal of the American Statistical Association* **104**, 26-36.
- **Dunson, D.B.** and Xing, C. (2009). Bayesian nonparametric modeling of multivariate unordered categorical data. *Journal of the American Statistical Association* **104**, 1042-1051.
- Chung, Y. and **Dunson, D.B.** (2009). Nonparametric Bayes conditional distribution modeling with variable selection. *Journal of the American Statistical Association*, **104**, 1646-1660.
- Rodriguez, A., **Dunson, D.B.**, and Gelfand, A.E. (2010). Latent stick-breaking processes. *Journal of the American Statistical Association* **105**, 647-659.
- Ren, L., **Dunson, D.B**, Lindroth, S. and Carin, L. (2010). Dynamic nonparametric Bayesian models for analysis of music. *Journal of the American Statistical Association*, **105**, 458-472.

- Reich, B., Fuentes, M. and **Dunson, D.B.** (2011). Bayesian spatial quantile regression. *Journal of the American Statistical Association*, **106**, 6-20.
- Yang, H., **Dunson, D.B.** and O'Brien, S. (2011). Nonparametric Bayes stochastically ordered latent class models. *Journal of the American Statistical Association*, **106**, 807-817.
- Canale, A. and **Dunson, D.B.** (2012). Bayesian kernel mixtures for counts. *Journal of the American Statistical Association*, 106, 1528-1539.
- Chen, M., Zaas, A., Wood, C., Ginsberg, G.S., Lucas, J., **Dunson, D.B.** and Carin, L. (2012). Predicting viral infection from high-dimensional biomarker trajectories. *Journal of the American Statistical Association*, 106, 1259-1279.
- Bhattacharya, A. and **Dunson, D.B.** (2012). Simplex factor models for multivariate unordered categorical data. *Journal of the American Statistical Association*, 107, 362-377.
- Bhattacharya, A, Page, G. and **Dunson, D.B.** (2013). Classification via Bayesian nonparametric learning of affine subspaces. *Journal of the American Statistical Association*, 108, 187-201.
- Kunihama, T. and **Dunson, D.B.** (2013). Bayesian modeling of temporal dependence in large sparse contingency tables. *Journal of the American Statistical Association*, 108, 1324-1338.
- Murray, J., **Dunson, D.B.**, Lucas, J. and Carin, L. (2013). Bayesian Gaussian copula factor models for mixed data. *Journal of the American Statistical Association*, 108, 656-665.
- Zhu, B. and **Dunson, D.B.** (2013). Locally adaptive Bayes nonparametric regression via nested Gaussian processes. *Journal of the American Statistical Association*, 108, 1445-1456.
- Gu, K., Pati, D. and **Dunson, D.B.** (2014). Bayesian multiscale modeling of closed curves in point clouds. *Journal of the American Statistical Association*, 109, 1481-1494.
- Kundu, S. and **Dunson, D.B.** (2014). Bayes variable selection in semiparametric linear models. *Journal of the American Statistical Association*, 109, 437-447.
- Scarpa, B. and **Dunson, D.B.** (2014). Enriched stick breaking processes for functional data. *Journal of the American Statistical Association*, 109, 647-660.
- Wheeler, M., **Dunson, D.B.**, Herring, A.H., Pandalai, S.P. and Baker, B.A. (2014). Mechanistic hierarchical Gaussian processes. *Journal of the American Statistical Association*, 109, 894-904.
- Bhattacharya, A., Pati, D., Pillai, N. and **Dunson, D**. (2015). Dirichlet-Laplace priors for optimal shrinkage. *Journal of the American Statistical Association*, 110, 1479-90.
- Guhaniyogi, R. and **Dunson, D.B.** (2015). Bayesian compressed regression. *Journal of the American Statistical Association*, 110, 1500-14.
- Yang, Y. and **Dunson, D.B.** (2015). Bayesian conditional tensor factorizations for high-dimensional classification. *Journal of the American Statistical Association*, online.
- Zhou, J., Bhattacharya, A., Herring, A.H. and **Dunson, D.** (2015). Bayesian factorizations of big sparse tensors. *Journal of the American Statistical Association*, 110, 1562-76.
- Sarkar, A. and **Dunson, D.B.** (2016). Bayesian nonparametric modeling of higher order Markov chains. *Journal of the American Statistical Association*, 111, 1791-1803.
- Lin, L., St Thomas, B., Zhu, H. and **Dunson, D.B.** (2017). Extrinsic local regression on manifold-valued data. *Journal of the American Statistical Association*, 112, 1261-1273.
- Zhao, S., Engelhardt, B., Mukherjee, S. and **Dunson, D.B.** (2018). Fast moment estimation for generalized latent Dirichlet models. *Journal of the American Statistical Association*, online.
- Durante, D., **Dunson, D.B.** and Vogelstein, J. (2018). Nonparametric Bayes modeling of populations of networks. *Journal of the American Statistical Association*, with discussion (**Editor's invited paper JSM 2017**).
- Sarkar, A., Chabout, J., Macopson, J.J., Jarvis, E.D. and **Dunson, D.B.** (2018). Bayesian semiparametric mixed effects Markov chains with application to volalization syntax. *Journal of the American Statistical Association*, online.

- Johndrow, J., Smith, A., Pillai, N. and **Dunson, D.B.** (2019). MCMC for imbalanced categorical data. *Journal of the American Statistical Association*, 114, 1394-1403.
- Miller, J. and **Dunson, D.B.** (2019). Robust Bayesian inference via coarsening. *Journal of the American Statistical Association*, Online.
- Zhang Z, Descoteaux M, **Dunson DB** (2019) Nonparametric Bayes models of fiber curves connecting brain regions. *Journal of the American Statistical Association*, 114, 1505-1517.
- Mukhopadhyay M, **Dunson DB** (2020) Targeted random projection for prediction from high-dimensional features. *Journal of the American Statistical Association* 115 (532), 1998-2010.
- Li M, **Dunson DB** (2020) Comparing and weighting imperfect models using D-probabilities. *Journal of the American Statistical Association*, 115, 1349-1360.
- Ferrari F, **Dunson DB** (2021) Bayesian factor analysis for inference on interactions. *Journal of the American Statistical Association* 116 (535), 1521-1532.
- Zhu Y, **Dunson DB** (2022) Classification trees for imbalanced and sparse data: Surface-to-volume regularization. *Journal of the American Statistical Association*, Online.
- Chakraborty A, Ou R, **Dunson D** (2022) Bayesian inference on high-dimensional multivariate binary data. *Journal of the American Statistical Association*, to appear.
- Zito A, Rigon T, Ovaskainen O, **Dunson D** (2022) Bayesian modeling of sequential discoveries. *Journal of the American Statistical Association*, Online.
- Chandra N, **Dunson D**, Xu J (2023) Inferring covariance structure from multiple data sources using subspace factor analysis. *Journal of the American Statistical Association*, under revision.
- Ou R, Sen D, **Dunson D** (2023) Scalable Bayesian inference for time series via divide-and-conquer. *Journal of the American Statistical Association*, under revision.
- Papadogeorgou G, Bello C, Ovaskainen O, **Dunson DB** (2023) Covariate-informed latent interaction models: Addressing geographic & taxonomic bias in predicting bird-plant interactions. *Journal of the American Statistical Association*, Online.
- Dombowsky A, **Dunson DB** (2023) Bayesian clustering via fusing of localized densities. *Journal of the American Statistical Association*, submitted.
- Dewaskar M, Tosh C, Knoblauch J, **Dunson DB** (2023) Robustifying likelihoods by optimistically re-weighting data. *Journal of the American Statistical Association*, submitted.
- Li C et al, **Dunson DB** (2023) Modeling recurrent failures on large directed networks. *Journal of the American Statistical Association*, under revision.

Biometrika

- Peddada, S. D., **Dunson, D.B.** and Tan, X. (2005). Estimation of order restricted means from correlated data. *Biometrika* **92**, 703-715.
- **Dunson, D.B.** and Park, J-H. (2008). Kernel stick breaking processes. *Biometrika* **95**, 307-323.
- **Dunson, D.B.** and Peddada, S.D. (2008). Bayesian nonparametric inference on stochastic ordering. *Biometrika* **95**, 859-874.
- **Dunson, D.B.** (2009). Nonparametric Bayes local partition models for random effects. *Biometrika* **96**, 249-262.
- Rodriguez, A., **Dunson, D.B.** and Gelfand, A.E. (2009). Nonparametric functional data analysis through Bayesian density estimation. *Biometrika* **96**, 149-162.
- Bhattacharya, A. and **Dunson, D.B.** (2010). Nonparametric Bayesian density estimation on manifolds with applications to planar shapes. *Biometrika*, 97, 851-865.
- Pati, D., Reich, B. and **Dunson, D.B.** (2011). Bayesian geostatistical modeling with informative sampling locations. *Biometrika* **98**, 35-48.

- Bhattacharya, A. and **Dunson, D.B.** (2011). Sparse Bayesian infinite factor models. *Biometrika* **98**, 291-306.
- Wang, L., and **Dunson, D.B.** (2011). Bayesian isotonic density regression. *Biometrika* **98**, 537-551.
- Banerjee, A., **Dunson, D.B** and Tokdar, S. (2013). Efficient Gaussian process regression for large data sets. *Biometrika* **100**, 75-89.
- Armagan, A., **Dunson, D.B.**, Lee, J. and Bajwa, W. (2013). Posterior consistency in linear models under shrinkage priors. *Biometrika*, 100, 1011-1018.
- Canale, A. and **Dunson, D.B.** (2013). Nonparametric Bayes modeling of count processes. *Biometrika*, 100, 801-816.
- Durante, D. and **Dunson, D.B.** (2014). Nonparametric Bayes dynamic modeling of relational data. *Biometrika*, 101, 883-898.
- Lin, L. and **Dunson, D.B.** (2014). Bayesian monotone regression using Gaussian process projection. *Biometrika*, 101, 303-317.
- Kundu, S. and **Dunson, D.B.** (2014). Latent factor models for density estimation. *Biometrika*, 101, 641-654.
- Lock, E. and **Dunson, D.B.** (2015). Shared kernel Bayesian screening. *Biometrika*, online.
- Kunihama, T. and **Dunson, D.B.** (2016). Nonparametric Bayes inference on conditional independence. *Biometrika*, online.
- Rao, V., Lin, L. and **Dunson, D.B.** (2016). Data augmentation for models based on rejection sampling. *Biometrika*, 103, 319-335.
- Datta, J. and **Dunson, D.B.** (2016). Bayesian inference on quasi-sparse count data. *Biometrika*, 103, 971-983.
- Srivastava, S., Engelhardt, B.E. and **Dunson, D.B.** (2017). Expandable factor analysis. *Biometrika*, 104, 649-664.
- Wheeler, M.W., **Dunson, D.B.** and Herring, A.H. (2017). Bayesian local extrema splines. *Biometrika*, online.
- Cheng, L., Srivastava, S. and **Dunson, D.B.** (2017). Simple, scalable and accurate posterior interval estimation. *Biometrika*, 104, 665-680.
- Johndrow JE, Lum K, **Dunson DB** (2018) Theoretical limits of record linkage and microclustering. *Biometrika*, 105(2):431-446.
- Duan LL, Young AL, Nishimura A, **Dunson DB** (2020) Bayesian constraint relaxation. *Biometrika*, 107, 191-204.
- **Dunson DB**, Johndrow J (2020) The Hastings algorithm at fifty. *Biometrika*, 107, 1-23.
- Legramanti S, Durante D, **Dunson DB** (2020) Bayesian cumulative shrinkage for infinite factorizations. *Biometrika* 107(3), 745-752.
- Nishimura A, **Dunson D**, Lu J (2020) Discontinuous Hamiltonian Monte Carlo for discrete parameters and discontinuous likelihoods. *Biometrika* 107, 365-380.
- Li D, **Dunson DB** (2020) Classification via local manifold approximation. *Biometrika* 107(4), 1013-20.
- Sen D, Sachs M, Lu J, **Dunson D** (2020) Efficient posterior sampling for high-dimensional imbalanced logistic regression. *Biometrika* 107(4), 1005-1012.
- van den Boom W, Reeves G, **Dunson DB** (2021) Approximating posteriors with high-dimensional nuisance parameters via integrated rotated Gaussian approximation. *Biometrika* 108(2), 269-282.
- Schiavon L, Canale A, **Dunson DB** (2022) Generalized infinite factorization models. *Biometrika*, Online.

- Rigon T, Herring AH, **Dunson DB** (2023) A generalized Bayes framework for probabilistic clustering. *Biometrika*, Online.
- Zhu Y, Peruzzi M, Li C, **Dunson DB** (2023) Radial neighbors for provably accurate scalable approximations of Gaussian processes. *Biometrika*, under revision.

Journal of the Royal Statistical Society Series B

- **Dunson, D. B.** (2000). Bayesian latent variable models for clustered mixed outcomes. *Journal of the Royal Statistical Society B* **62**, 355-366.
- **Dunson, D.B.**, Pillai, N.S. and Park, J-H. (2007). Bayesian density regression. *Journal of the Royal Statistical Society B* **69**, 163-183.
- Kessler, D.C., Hoff, P.D. and **Dunson, D.B.** (2014). Marginally specified priors for nonparametric Bayes estimation. *Journal of the Royal Statistical Society B*, 77, 35-58.
- Rao, V., Adams, R. and **Dunson, D.B.** (2017). Bayesian inference for repulsive point processes. *Journal of the Royal Statistical Society B*, 79, 877-897.
- Niu N, Cheung P, Lin L, Dai Z, Lawrence N, **Dunson D** (2019) Intrinsic Gaussian processes on complex constrained domains. *Journal of the Royal Statistical Society B*, 81, 603-627.
- Mukhopadhyay M, Li D, **Dunson DB** (2020) Estimating densities with nonlinear support using Fisher-Gaussian kernels. *Journal of the Royal Statistical Society B*, 82, 1249-1271.
- Didong L, Mukhopadhyay M, **Dunson DB** (2022) Efficient manifold approximation with spherelets. *Journal of the Royal Statistical Society: Series B*, Online.
- **Dunson DB**, Wu HT, Wu N (2022) Graph based Gaussian processes on restricted domains. *Journal of the Royal Statistical Society: Series B*, Online.
- Duan L, **Dunson DB** (2023) Bayesian spanning tree: Estimating the backbone of the dependence graph. *Journal of the Royal Statistical Society: Series B*, revision submitted.
- Gu Y, **Dunson DB** (2023) Bayesian pyramids: Identifiable multilayer discrete latent structure models for discrete data. *Journal of the Royal Statistical Society: Series B*, 85 (2), 399-426.
- **Dunson DB**, Wu N (2023) Inferring manifolds from noisy data using Gaussian processes. *Journal of the Royal Statistical Society: Series B*, under revision.

Annals of Statistics

- Bhattacharya, A, Pati, D, **Dunson DB** (2014) Anisotropic function estimation using multi-bandwidth Gaussian processes. *Annals of Statistics*, 42, 352-381.
- Pati D, Bhattacharya A, Pillai N, **Dunson DB** (2014) Posterior contraction in sparse Bayesian factor models for massive covariance matrices. *Annals of Statistics*, 42, 1102-1130.
- Yang Y, **Dunson DB** (2016) Bayesian manifold regression *Annals of Statistics*, 44, 876-905.
- Johndrow J, Bhattacharya A, **Dunson DB** (2017) Tensor decompositions and sparse log-linear models. *Annals of Statistics*, 45, 1-38.

Annals of Applied Statistics

- Rodriguez, A. and **Dunson, D.B.** (2014). Functional clustering in nested designs: Modeling variability in reproductive epidemiology studies. *Annals of Applied Statistics*, 8, 1416-1442.
- Durante, D. and **Dunson, D.B.** (2016). Locally adaptive dynamic networks. *Annals of Applied Statistics*, 10, 2203-2232.
- Wang L, Zhang Z, **Dunson D** (2019) Common and individual structure of brain networks. *Annals of Applied Statistics*, 13, 85-112.
- Ferrari F, **Dunson DB** (2020) Identifying main effects and interactions among exposures using Gaussian processes. *Annals of Applied Statistics* 14 (4), 1743-1758.

- Moran KR, **Dunson D**, Herring AH (2021) Bayesian joint modeling of chemical structure and dose response curves. *Annals of Applied Statistics* 15 (3), 1405-1430.
- Roy A, Lavine I, Herring AH, **Dunson DB** (2021) Perturbed factor analysis: Accounting for group differences in exposure profiles. *Annals of Applied Statistics* 15 (3), 1386-1404.
- Aliverti A, **Dunson DB** (2022) Composite mixture of log-linear models with application to psychiatric studies. *Annals of Applied Statistics*, 16 (2), 765.
- Chakraborty A, Ovaskainen O, **Dunson DB** (2022) Bayesian semiparametric long memory models for discretized event data. *Annals of Applied Statistics*, 16 (3), 1380-1399.
- Russo M, Singer BH, **Dunson DB** (2022) Multivariate mixed membership modeling: Inferring domain-specific risk profiles. *Annals of Applied Statistics*, 16 (1), 391-413.
- Legramanti S, Rigon T, Daniele D, **Dunson DB** (2022) Extended stochastic block models with application to criminal networks. *Annals of Applied Statistics*, 16 (4), 2369-2395.
- Chattopadhyay S, Engel S, **Dunson DB** (2023) Inferring synergistic and antagonistic interactions in mixtures of exposures. *Annals of Applied Statistics*, revision submitted.
- Jin B, Herring AH, **Dunson DB** (2023) Spatial predictions of physically constrained domains: Applications to Artic sea salinity data. *Annals of Applied Statistics*, revision submitted.

Biometrics

- **Dunson, D. B.** (1998). Dose-dependent number of implants and implications in developmental toxicity. *Biometrics* **54**, 558-569.
- **Dunson, D. B.** and Haseman, J. K. (1999). Modeling tumor onset and multiplicity using transition models with latent variables. *Biometrics* **55**, 965-970.
- **Dunson, D. B.**, Weinberg, C. R., Perreault, S. D., and Chapin, R.E. (1999). Summarizing the motion of self-propelled cells: applications to sperm motility. *Biometrics* **55**, 537-543.
- **Dunson, D. B.** and Dinse, G. E. (2000). Distinguishing effects on tumor multiplicity and growth rate in chemoprevention experiments. *Biometrics* **56**, 1068-1075.
- **Dunson, D. B.** and Weinberg, C. R. (2000). Modeling human fertility in the presence of measurement error. *Biometrics* **56**, 288-292.
- **Dunson, D. B.** (2001). Bayesian modeling of the level and duration of fertility in the menstrual cycle. *Biometrics* **57**, 1067-1073.
- **Dunson, D. B.** and Baird, D. D. (2001). A flexible parametric model for combining current status and age at first diagnosis data. *Biometrics* **57**, 396-403.
- **Dunson, D. B.** and Perreault, S. D. (2001). Factor analytic models of clustered multivariate data with informative censoring. *Biometrics* **57**, 302-308.
- **Dunson, D. B.** and Baird, D. D. (2002). A proportional hazards model for incidence and induced remission of disease. *Biometrics* **58**, 71-78.
- **Dunson, D. B.** and Baird, D. D. (2002). Bayesian modeling of incidence and progression of disease from cross-sectional data. *Biometrics* **58**, 813-822.
- **Dunson, D. B.** and Dinse, G. E. (2002). Bayesian models for multivariate current status data with informative censoring. *Biometrics* **58**, 79-88.
- Chen, Z. and **Dunson, D. B.** (2003). Random effects selection in linear mixed models. *Biometrics* **59**, 762-769.
- **Dunson, D.B.**, Chen, Z. and Harry, J. (2003). Bayesian joint models of cluster size and subunit-specific outcomes. *Biometrics* **59**, 521-530.

- **Dunson, D. B.**, Chulada, P., and Arbes, S. (2003). Bayesian modeling of time varying and waning exposure effects. *Biometrics* **59**, 83-91.

  item **Dunson, D.B.** and Herring, A.H. (2003). Bayesian inferences in the Cox model for order restricted alternatives. *Biometrics* **59**, 918-925.

- **Dunson, D.B.** and Neelon, B. (2003). Bayesian inferences on order-constrained parameters in generalized linear models. *Biometrics* **59**, 286-295.

- **Dunson, D. B.**, Watson, M. and Taylor, J.A. (2003). Bayesian latent variable models for median regression on multiple outcomes. *Biometrics* **59**, 296-304.

- **Dunson, D.B.** and Chen, Z. (2004). Selecting factors predictive of heterogeneity in multivariate event time data. *Biometrics* **60**, 352-358.

- **Dunson, D.B.**, Holloman, C., Calder, C. and Gunn, L. (2004). Bayesian modeling of multiple lesion onset and growth from interval censored data. *Biometrics* **60**, 676-683.

- Herring, A.H., and **Dunson, D.B.** (2004). Modeling the effects of a bi-directional latent predictor from multivariate questionnaire data. *Biometrics* **60**, 926-935.

- Neelon, B. and **Dunson, D.B.** (2004). Bayesian isotonic regression and trend analysis. *Biometrics* **60**, 398-406.

- O'Brien, S.M. and **Dunson, D.B.** (2004). Bayesian multivariate logistic regression. *Biometrics* **60**, 739-746.

- **Dunson, D.B.** and Stanford, J.B. (2005). Bayesian inferences on predictors of conception probabilities. *Biometrics* **61**, 126-133.

- Hans, C. and **Dunson, D.B.** (2005). Bayesian inferences on umbrella orderings. *Biometrics* **61**, 1018-1026.

- Cai, B. and **Dunson, D.B.** (2006a). Bayesian covariance selection in generalized linear mixed models. *Biometrics* **62**, 446-457.

- Pennell, M.L. and **Dunson, D.B.** (2006). Bayesian semiparametric dynamic frailty models for multiple event time data. *Biometrics* **62**, 1044-1052.

- Bigelow, J. and **Dunson, D.B.** (2007). Bayesian adaptive regression splines for hierarchical data. *Biometrics* **63**, 724-732.

- Kinney, S. and **Dunson, D.B.** (2007). Fixed and random effects selection in linear and logistic models. *Biometrics* **63**, 690-698.

- Pennell, M.L. and **Dunson, D.B.** (2008). Nonparametric Bayes testing of changes in a response distribution with an ordinal predictor. *Biometrics* **64**, 413-423.

- Scarpa, B., and **Dunson, D.B.** (2009). Bayesian hierarchical functional data analysis via contaminated informative priors. *Biometrics* **65**, 772-780.

- Cai, B., **Dunson, D.B.** and Stanford, J.B. (2010). Dynamic model for multivariate markers of fecundability. *Biometrics*, 66, 905-913.

- MacLehose, R.F. and **Dunson, D.B.** (2010). Bayesian semi-parametric multiple shrinkage. *Biometrics*, 66, 455-462.

- Wang, L. and **Dunson, D.B.** (2010). Semiparametric Bayes multiple testing: Applications to tumor data. *Biometrics*, 66, 493-501.

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Editorial Duties

- Associate Editor, *Biometrika*, 2019-
- Associate Editor, *JASA Theory and Methods*, 2023-
- Joint Editor, *Journal of the Royal Statistical Society, Series B*, 2016-2019
- Area Chair, *International Conference on Machine Learning Research*, 2014
- Action Editor, *Journal of Machine Learning Research*, 2013-2015
- Area Chair, *Neural Information Processing Systems* (NIPS), 2009
- Co-Editor, *Bayesian Analysis*, 2006 to 2013
- Associate Editor, *Biometrika*, 2008 to 2015
- Associate Editor, *JASA Applications and Case Studies*, 2006 to 2012
- Associate Editor, *JRSS-B*, 2012 to 2016
- Associate Editor, *Psychometrika*, 2007 to 2009
- Associate Editor, *Biostatistics*, 2006 to 2008
- Associate Editor, *Biometrics*, 2000 to 2007

National & International Service

- Member of NIH Analytics and Statistics for Population Research Panel A (ASPA) Study Section, 2023-present
- Member of Cure Consortium, Observational Study Monitoring Board, 2022-present
- Scientific Committee, Fusion Workshop, Centre International de Recontres Mathematiques, 2022

- Member of NIH Biostatistical Methods and Research Design (BMRD) Study Section, 2020-2022
- Program Leader, SAMSI Deep Learning Program, 2019
- Member of the Biostatistical Methods & Research Design (BMRD) NIH Grant Review Panel, 2019
- Royal Statistical Society (RSS) program chair, Joint Statistical Meetings, 2017
- Chair, Scientific Program Committee, Bayesian Nonparametrics Conference, Paris, 2017
- Member, Honors Committee, Royal Statistical Society, 2016-present
- Founder of IMS Data Science group, 2015-present
- COPSS President's Award Selection Committee, 2016
- Organizer, SAMSI Program on Bayesian Nonparametrics, 2015
- Co-Leader, SAMSI Computational Neuroscience Program, 2015-2016
- US National Academy of Sciences Committee on Incorporating 21st Century Science into Risk-Based Evaluations, 2014-2016
- Chair, Fisher Lecturer Selection Committee, 2014
- Organizer, IMS-MSR Conference on Statistics and Data Science, Boston, 2015
- Local Organizing Committee, SAMSI Beyond Bioinformatics Program, 2014-2015
- Local Organizing Committee, Nonparametric Bayes Conference, Raleigh, 2015
- IMS Fellow Selection Committee, 2014-2015
- Fisher Lecturer Selection Committee, 2013
- Organizing Committee, Nonparametric Bayes Conference, Amsterdam, 2013
- IMS Program Chair, Joint Statistical Meetings, Montreal, August, 2012
- Biomedical Computing and Health Informatics Study Section, NIH, June, 2011
- Organizing Committee, Nonparametric Bayes Workshop, Veracruz, Mexico 2011
- Program Chair, Artificial Intelligence in Statistics (AISTATS) 2011 Conference, St Petersburg, FL
- Program Committee, Southern Regional Council on Statistics 2010 Conference, Norfolk, VA
- Student Paper Award Committee, NIPS 2009
- Organizing Committee, Nonparametric Bayes Workshop, NIPS 2009
- Program Committee, 7th Workshop on Bayesian Nonparametrics, Moncalieri, Italy, June 2009
- Program Committee Chair, AISTATS 2009
- Program Committee 6th Workshop on Bayesian Inference in Stochastic Processes, Italy, June 2009
- Board of Directors, International Society for Bayesian Analysis (ISBA), 2008 to present
- Membership Committee, ISBA, 2009 to present
- Mortimer Spiegelman Award Committee, 2008 to present
- Organizing Committee, 40th Symposium on the Interface: Computing Science and Statistics, Durham, NC, May 2008
- Media Expert, American Statistical Association 2007 to present
- Program Committee, ENAR International Biometrics Society Meeting, 2007 - 2008
- Student Paper Award Committee, ENAR, 2005 to 2008
- Savage Award Committee, 2004 to 2006 (Chair, 2005)

- Continuing Education Committee, ENAR 2003, 2006
- Membership Committee, ENAR 2001 to 2003
- Regional Advisory Board, ENAR 2000 to 2002
- EPA Perchlorate Risk Assessment Group, 1999 to 2000
- EMF Science Review Symposium, 1998

Direction of PhD Research

- Braden Scherting, 2022 to present
- Cathy Lee, DSS Duke, 2022 to present
- Glenn Palmer, DSS Duke, 2022 to present
- Alexander Dombowsky, DSS Duke, 2021 to present
- Steven Winter, DSS Duke, 2021 to present
- Yuren Zhou, DSS Duke, 2021 to present
- Bora Jin, DSS Duke, 2020 to 2023 (Johns Hopkins Postdoc)
- Ching-Lung Hsu, Duke Math, 2020 to present
- Tao Tang, Duke Math, 2020 to present
- Jennifer Kampe, DSS Duke, 2021 to present
- Edric Tam, DSS Duke, 2019 to present
- Alessandro Zito, DSS Duke, 2020 to 2023 (Harvard Postdoc)
- Rihui Ou, DSS Duke, 2019 to present
- Pritam Dey, DSS Duke, 2019 to 2023 (Texas A&M Postdoc)
- Shounak Chattopadhyay, DSS Duke, 2018 to 2023 (UCLA Postdoc)
- Yichen Zhu, DSS Duke, 2018 to 2023 (Bocconi University Postdoc)
- Hanyu Song, DSS Duke, 2018 to 2022 (Finance)
- Federico Ferrari, DSS Duke, 2017 to 2021 (Merck Research)
- Yuhan Chen, DSS Duke, 2015 to 2021
- Didong Li, Math Duke, 2016 to 2020 (Assistant Professor UNC Chapel Hill)
- Austin Talbot, DSS Duke, 2016 to 2020 (Stanford Postdoc)
- Emanuele Aliverti, Padua, Italy, 2017 to 2019 (Assistant Professor University Ca' Foscari, Italy)
- Michael Jauch, DSS Duke, 2015 to 2019 (Assistant Professor Florida State University)
- Sayan Patra, DSS Duke, 2015 to 2019 (LinkedIn)
- Michele Peruzzi, Bocconi, Italy, 2016 to 2018 (Postdoc Duke)
- Massimiliano Russo, Padua, Italy, 2016 to 2018 (Junior Faculty Harvard)
- Willem van den Boom, DSS Duke, 2014 to 2018 (Senior Research Fellow, NUS)
- Lu Wang, DSS Duke, DSS Duke, 2015 to 2018 (Assistant Professor, China)
- Ye (Eric) Wang, DSS Duke, 2014 to 2018 (Facebook)
- Akihiko Nishimura, Math Duke, 2013 to 2017 (winner of Laplace Award) (Assistant Professor, Johns Hopkins University)

- Daniele Durante, Univ Padua, Italy, 2012 to 2016 (winner Laplace Award, David Byar Award, SBP Grand Data Challenge) (Assistant Professor, Bocconi University, Italy)
- James Johndrow, DSS Duke, 2012 to 2016 (Stein Fellow, Stanford University; Assistant Professor Wharton School, U Penn)
- Xiangyu (Samuel) Wang, DSS Duke, 2013 to 2016 (Google Research)
- Tsuyoshi Kunihama, DSS Duke, 2011 to 2015 (Assistant Professor, Kwansei Gakuin University, Japan)
- Shaan Qamar, DSS Duke, 2012 to 2015 (Google)
- Yun Yang, DSS Duke, 2011 to 2014 (Assistant Professor, University of Illinois Urbana Champaign)
- Anjishnu Banerjee, DSS Duke, 2010 to 2013 (Assistant Professor, Wisconsin)
- Francesca Petralia, DSS Duke, 2009 to 2013 (Assistant Professor, Mt Sinai)
- David Kessler, Department of Biostatistics, University of North Carolina at Chapel Hill, 2007 to 2013 (SAS)
- Kai Cui, DSS Duke, 2010 to 2012 (Validus Group, Wall Street)
- Matt Wheeler, Department of Biostatistics, UNC-CH, 2010 to 2013 (National Institutes of Health)
- Anirban Bhattacharya, DSS Duke, 2009 to 2013 (Savage Award, Noether Junior Award) (Associate Professor, Texas A&M University)
- Antonio Canale, Univ. Padua, Italy, 2010 to 2012 (Associate Professor, University of Padua, Italy)
- Debdeep Pati, Department of Statistical Science (DSS), Duke, 2009 to 2012 (Assistant Professor, Texas A&M University)
- Minghui Shi, DSS Duke, 2009 to 2011 (Google)
- Hongxia Yang, DSS Duke, 2008 to 2010 (Alibaba)
- Suprateek Kundu, Department of Biostatistics, UNC-CH, 2009 to 2012 (Assistant Professor, Biostatistics, Emory University)
- Zhaowei Hua, Biostatistics, UNC-CH, 2007 to 2011 (Millennium: The Takeda Oncology Company)
- Yeonseung Chung, Biostatistics, UNC-CH, 2005 to 2008 (Associate Professor, Kaist University, Korea)
- Ju-Hyun Park, Biostatistics, UNC-CH, 2005 to 2008 (Assistant Professor, Dongguk University, Korea)
- Abel Rodriguez, DSS Duke (Alan Gelfand co-advisor) 2005 to 2007 (Professor of Statistics, UC Santa Cruz)
- Jamie Crandell, Biostatistics, UNC-CH, 2003 to 2006 (Research Assistant Professor, UNC-CH)
- Michael Pennell, Biostatistics, UNC-CH, 2003 to 2006 (Associate Professor of Biostatistics, Ohio State University)
- Laura Gunn, DSS Duke (Dalene Stangl co-advisor) 2002 to 2004 (Associate Professor, UNC-Charlotte)
- Brian Neelon, Biostatistics, UNC-CH, 2001 to 2003 (Associate Professor, Medical University of South Carolina)

Postdoctoral Fellows

- Nico Anceschi, 2022 to present
- Maoran Xu, 2022 to present
- James Matuk, 2021 to 2023 (University of Pittsburgh)
- Miheer Dewaskar, 2021 to present
- Rungang Han, 2021 to 2022 (Finance)
- Michele Peruzzi, DSS Duke, 2020 to 2023 (Assistant Professor, University of Michigan)
- Nan Wu, Math Duke, 2019 to 2022 (Assistant Professor, UT Dallas)
- Aritra Guha, DSS Duke, 2020 to 2021 (AT&T)
- Yuqi Gu, DSS Duke, 2020 to present (Assistant Professor Columbia U)
- Meimei Liu, DSS Duke, 2018 to 2020 (Assistant Professor, VA Tech U)
- Bianca Dumitrascu, DSS Duke, 2019 to 2020 (Early Career Fellow Cambridge)
- Tommaso Rigon, DSS Duke, 2019 to 2020 (Assistant Professor at University of Milano-Bicocca)
- Noirrit Kiran Chandra, DSS Duke, 2019 to 2020 (Assistant Professor, UT Dallas)
- Arkaprava Roy, DSS Duke, 2018 to 2020 (Assistant Professor, U of Florida)
- Antik Chakroborty, DSS Duke, 2018 to 2021 (Assistant Professor, Purdue)
- Georgia Papadogeorgou, DSS Duke, 2018 to 2020 (Assistant Professor, U of Florida)
- Deborshee Sen, DSS Duke & SAMSI, 2017 to 2021 (Assistant Professor, U of Manchester)
- Emmanueal Chevallier, DSS Duke, 2017 to 2018 (Asst Prof, Aix-Marseille University)
- Alex Young, Math Duke, 2017 to 2019 (Undergraduate Advisor & Instructor, Harvard University)
- Shaobo Han, DSS Duke, 2016 to 2019 (Industry)
- Minerva Mukhopadhyay, DSS Duke, 2016 to 2018 (Asst Prof, IIT Bombay)
- Leo Duan, DSS Duke, 2016 to 2018 (Assistant Professor, Florida State University)
- Zhengwu Zhang, DSS Duke/SAMSI (Hongtu Zhu co-advisor), 2015 to present (Assistant Professor, UNC-CH)
- Abhra Sarkar, DSS Duke, 2014 to 2017 (Assistant Professor, Statistics, UT Austin)
- Cheng Li, 2014-2016 (Assistant Professor, Statistics, National University of Singapore)
- Jeff Miller, DSS Duke, 2014 to 2016 (Assistant Professor, Biostatistics, Harvard)
- Jyotishka Datta, DSS Duke/SAMSI, 2014 to 2016 (Assistant Professor, University of Arkansas)
- Agniva Som, DSS Duke, 2014 to 2015 (Amazon, India)
- Rajarshi Guhaniyogi, DSS Duke, 2012 to 2014 (Assistant Professor, Statistics, University of California at Santa Cruz)
- Lizhen Lin, DSS Duke, 2012 to 2014 (Assistant Professor, Statistics, Notre Dame)
- Eric Lock, DSS Duke, 2012 to 2014 (Assistant Professor, Biostatistics, University of Minnesota)
- Stanislav Minsker, Duke Math (Mauro Maggioni co-advisor), 2012 to 2014 (Assistant Professor, Mathematics, University of Southern California)
- Vinayak Rao, DSS Duke, 2012 to 2014 (Assistant Professor, Statistics, Purdue University)

- Sanvesh Srivastava, DSS Duke (Barbara Engelhardt co-advisor), 2013 to 2015 (Assistant Professor, Statistics, University of Iowa)
- Nathaniel Strawn, Duke Math (Mauro Maggioni & Larry Carin co-advisors), 2011 to 2012 (Assistant Professor, Mathematics, Georgetown University)
- Joshua Vogelstein, DSS Duke (Mauro Maggioni, Math co-advisor), 2012 to 2014 (Assistant Professor, BME, Johns Hopkins)
- Irina Irincheeva, DSS Duke, 2011 to 2012 (Nestle, Lausanne)
- Bin Zhu, Human Genetics, Duke (Allison Ashley-Koch co-advisor), 2010 to 2012 (Tenure track, National Cancer Institute)
- Hongxiao Zhu, SAMSI & Duke, 2010 to 2012 (Assistant Professor of Statistics, VA Tech)
- Lauren Hannah, DSS Duke, 2010 to 2012 (Assistant Professor of Statistics, Columbia University)
- Artin Armagan, DSS Duke, 2010 to 2011 (SAS)
- Emily Fox, DSS Duke (Mike West co-advisor), 2009 to 2011 (Associate Professor of Statistics, University of Washington)
- Sourish Das, SAMSI and DSS Duke, 2008 to 2009 (SAS)
- Abhishek Bhattacharya, DSS Duke, 2008 to 2010 (Assistant Professor, Indian Statistical Institute)
- Lianming Wang, NIEHS, 2006 to 2008 (Associate Professor of Statistics, University of South Carolina)
- Mingan Yang, NIEHS, 2006 to 2008 (Assistant Professor of Mathematics, Central Michigan University)
- Richard MacLehose, NIEHS, 2005 to 2008 (Associate Professor of Epidemiology & Community Health, University of Minnesota)
- Bo Cai, NIEHS, 2003 to 2006 (Associate Professor of Biostatistics, University of South Carolina)
- Sean O'Brien, NIEHS, 2002 to 2004 (Associate Professor of Biostatistics & Bioinformatics, Duke University)
- Zhen Chen, NIEHS, 2001 to 2003 (Investigator, National Institutes of Health)

Books

Random Effect and Latent Variable Model Selection, ed. D.B. Dunson. John Wiley & Sons, 2008.

BDA3: Bayesian Data Analysis, Gelman, Carlin, Stern, **Dunson**, Ventari and Rubin, 2013.

Book Chapters, Review Papers & Letters

- Weinberg, C. R. and **Dunson, D. B.** (2000). Some issues in assessing human fertility. *Journal of the American Statistical Association* **95**, 300-303.
- **Dunson, D. B.** (2001). Commentary: Practical advantages of Bayesian analysis of epidemiologic data. *American Journal of Epidemiology* **153**, 1222-1226.
- Weinberg, C. R. and **Dunson, D. B.** (2002). Some issues in assessing human fertility. In *Statistics in the 21st Century*. Boca Raton: Chapman & Hall/CRC, 42-49.
- **Dunson, D. B.** (2002). Transgenic mouse model. In *Encyclopedia of Environmetrics*, A. H. El-Shaarawi and W. W. Piegorsch (eds), **2**, 2227-2229, John Wiley & Sons.
- **Dunson, D. B.** (2002). Fertility studies. In *Encyclopedia of Environmetrics*, A. H. El-Shaarawi and W. W. Piegorsch (eds), **2**, 769-773, John Wiley & Sons.
- **Dunson, D. B.** and Colombo, B. (2002). TwoDay Algorithm in predicting fertile time - Reply. *Human Reproduction* **17**, 1925-1926.

- Trouba, K., Nyska, A., Styblo, M., **Dunson, D.B.**, Lomnitski, L., Grossman, S., Moser, G., Suttie, A., Patterson, R., Walton, F., and Germolec, D. (2003). Effect of antioxidants on the papilloma response and liver glutathione modulation mediated by arsenic in Tg.AC transgenic mice. *Arsenic Exposure and Health Effects V*, W.R. Chappell, C.O. Abernathy, R.L. Calderon, and D.J. Thomas (eds), Elsevier.
- Stanford, J.B. and **Dunson, D.B.** (2003). Day-specific probabilities of conception in the menstrual cycle. In *Integrating Faith and Science Through Natural Family Planning*, R.J. Fehring (ed), 79-99, Marquette Press.
- **Dunson, D.B.** (2005). Bayesian Biostatistics. *Handbook of Statistics, 25, Bayesian Thinking: Modeling and Computation*, C.R. Rao and D.K. Dey (eds), Elsevier.
- Stanford, J.B., **Dunson, D.B.** and Tingen, C. (2004). Studying human fertility: Response to Slama et al. and Joffe et al. *Environmental Health Perspectives* **112**, A605-A606.
- **Dunson, D.B.** (2005). Bayesian analyses of fecundability. *ISBA Bulletin*, **11**.
- Chen, Z. and **Dunson, D.B.** (2005). Rejoinder to "comments about joint modeling of cluster size and binary and continuous subunit-specific outcomes." *Biometrics* **61**, 866-867.
- **Dunson, D.B.** (2006). Special issue on reproductive studies. *Statistical Methods in Medical Research* **15**, 91-92.
- **Dunson, D.B.**, Palomo, J., and Bollen, K.A. (2007). Bayesian structural equation modeling. *Handbook of Latent Variable and Related Models*, S-Y. Lee (editor), Elsevier.
- **Dunson, D.B.** (2007). Discussion of "Bivariate binomial spatial modeling of *Loa loa* prevalence in tropical Africa." *Journal of the American Statistical Association*, 103:40-41.
- **Dunson, D.B.** (2008). Nonparametric Bayes applications to biostatistics. *Nonparametric Bayes Statistical Modeling*. Cambridge University Press, to appear.
- Cai, B. and **Dunson, D.B.** (2008). Bayesian variable selection in generalized linear mixed models. In *Random Effect and Latent Variable Model Selection*, ed. D.B. Dunson. John Wiley & Sons.
- Ghosh, J. and **Dunson, D.B.** (2008). Bayesian model selection in factor analytic models. In *Random Effect and Latent Variable Model Selection*, ed. D.B. Dunson. John Wiley & Sons.
- Kinney, S. and **Dunson, D.B.** (2008). Bayesian model uncertainty in mixed effects models. In *Random Effect and Latent Variable Model Selection*, ed. D.B. Dunson. John Wiley & Sons.
- **Dunson, D.B.** (2010). Nonparametric Bayesian bioinformatics. *Bayesian Modeling in Bioinformatics*. D.K. Dey, S. Ghosh, and B.K. Mallick (eds), Chapman & Hall/CRC.
- **Dunson, D.B.** (2010). Flexible Bayes regression of epidemiologic data. *The Oxford Handbook of Applied Bayesian Analysis*, A. O'Hagan and M. West (editors), Oxford University Press, UK.
- **Dunson, D.B.** and Bhattacharya, A. (2010). Nonparametric Bayes regression and classification through mixtures of product kernels (with discussion). *Bayesian Analysis 9*, to appear.
- Stanford, J.B., Mikolajczyk, R.T. and **Dunson, D.B.**. (2010). Are Chinese people really more fertile? *Fertility & Sterility*, **94**, e58.

Invited Talks (2004-Present)

- Bayesian isotonic regression with applications in epidemiology. Seminar sponsored by Columbia University Department of Statistics (2004)
- Bayesian semiparametric regression for multivariate data. Seminar sponsored by the Department of Biostatistics, University of North Carolina at Chapel Hill (2004)
- Bayesian semiparametric latent response models. Seminar sponsored by the Institute of Statistics and Decision Sciences, Duke University (2004)
- Bayesian latent variable methods for biomedical data. ENAR Biometrics Society Meeting in Pittsburgh (2004)

- Bayesian order restricted inference with applications to studies of human fertility. Joint Statistical Meetings in Toronto (2004)
- Bayesian isotonic regression for epidemiology. Society for Epidemiologic Research (SER) Annual Meeting in Salt Lake City (2004)
- Bayesian isotonic regression. International Conference on Statistics in Health Sciences in Nantes, France (2004)
- Declines in male and female fertility with age: Bayesian methods and new results. Seminar sponsored by the Center for Studies in Demography and Ecology, University of Washington (2004)
- Latent variable modeling of longitudinal data. Workshop on Latent Variable Modeling in the Social Sciences sponsored by SAMSI (2004)
- Hierarchical density regression. Colloqium sponsored by the Department of Biostatistics, Harvard University (2004)
- Bayesian latent variable density regression. ENAR Biometrics Society Meeting in Austin, Texas (2005)
- Bayesian latent variable density regression with applications in molecular epidemiology. Joint Statistical Meetings (2005)
- Colloqium speaker, Department of Biostatistics and Bioinformatics, University of Louisville (2005)
- Seminar speaker, Department of Biostatistics, University of Pittsburgh (2006)
- Variable selection in nonparametric random effects models, ENAR International Biometric Society Meeting in Tampa, FL (2006)
- Semiparametric latent trajectory models, Workshop at University of Warwick, UK (2006)
- Invited discussant, Valencia Meeting, Alicante, Spain (2006)
- Seminar speaker, Sandia National Laboratories, Albuquerque, NM (2006)
- Seminar speaker, Department of Biostatistics, MD Anderson Cancer Center (Sept 2006)
- Seminar speaker, Department of Biostatistics, Columbia University (Oct 2006)
- Keynote speaker, International Workshop on Statistical Modelling of Complex Systems, Munich, Germany (Oct 2006)
- Seminar speaker, Department of Biostatistics, Johns Hopkins University (Oct 2006)
- Seminar speaker, Center for Statistics in the Social Sciences, University of Washington (Jan 2007)
- Invited speaker, International Chinese Statistical Association (ICSA) Meeting, Raleigh (Jun 2007)
- Invited workshop speaker, Society for Epidemiologic Research (SER) Annual Meeting, Boston, MA (Jun 2007)
- Invited speaker, Joint Statistical Meetings, Salt Lake City, Utah (July 2007)
- Invited speaker, Workshop on the "Construction and Properties of Bayesian Nonparametric Regression," Isaac Newton Institute, Cambridge, UK (Aug 2007)
- Seminar speaker, Department of Statistics, University of Wisconsin (Sept 2007)
- Invited speaker, "RISK: Perception, Policy & Practice Workship," SAMSI, RTP, NC (October 2007)
- Seminar speaker, Department of Biostatistics, University of Michigan (October 2007)
- Seminar speaker, Department of Epidemiology & Biostatistics, University of South Carolina (October 2007)
- Invited speaker, Workshop on the "Modern challenges of curve modelling: inverse problems and qualitative constraints," University of Bristol, UK (November 2007)

- Invited speaker, MCMSki conference in Bormio, Italy (January 2008)
- Invited speaker, session on "Bayesian modeling in biostatistics", Statistics and Life Sciences Conference, Munich, Germany (March 2008)
- Invited speaker, ENAR, Arlington, VA (March 2008)
- Invited speaker, Yahoo!, Santa Clara, CA (June 2008)
- Invited speaker, Joint Statistical Meetings, Denver, CO (August 2008)
- Invited discussant, JASA-ACS Invited Paper, JSM, Denver, CO (August 2008)
- Seminar speaker, Department of Statistics, Carnegie Mellon University (October 2008)
- Seminar speaker, Bocconi University, Milan, Italy (December 2008)
- Seminar speaker, Department of Statistics & Operations Research, University of North Carolina at Chapel Hill (January 2009)
- Seminar speaker, Department of Epidemiology & Biostatistics, University of Georgia, Athens, GA (February 2009)
- Seminar speaker, Department of Biostatistics, Vanderbilt University (March 2009)
- Invited Speaker, CRM-ISM-GERAD Joint Colloquium, Montreal, Canada (April 2009)
- Plenary Speaker, 75th Anniversary, Department of Statistics, Iowa State University (June 2009)
- Invited Speaker, Nonparametric Bayes Program, Turin, Italy (June, 2009)
- Invited Speaker, TIES Environmetrics Conference, Bologna, Italy (July, 2009)
- Seminar Speaker, Medical University of South Carolina (October 2009)
- Invited Speaker, 60th Anniversary Celebration, Department of Biostatistics, University of North Carolina at Chapel Hill (October 2009)
- Invited Speaker, "Frontier of Statistical Decision Making and Bayesian Analysis" in honor of Jim Berger, San Antonio (March, 2010)
- Invited Speaker, Symposium on Modern Bayesian Non-parametrics, University of Texas at Austin (March, 2010)
- Seminar Speaker, Brigham Young University (April 2010)
- Invited Speaker, International Society for Bayesian Analysis (ISBA) World Meetings, Benidorm, Spain (June 2010)
- Lecturer, Applied Bayesian Summer School, Italy (June 2010)
- Invited Speaker, Joint Statistical Meetings, Vancouver, Canada (August 2010)
- Seminar Speaker, Department of Statistics, Columbia University (October 2010)
- Invited Discussant, AdapskiIII Workshop, Park City, Utah (January 2011)
- Invited Speaker, ENAR Biometrics Society Meeting, Miami, FL (March 2011)
- Invited Speaker, IISA Conference on Probability, Statistics & Data Analysis, Raleigh, NC (April 2011)
- Invited Speaker, Bayesian Nonparametric Workshop, Veracruz, Mexico (June 2011)
- Invited Speaker, Joint Statistical Meetings, Miami (August 2011)
- Invited Speaker, Department of Biostatistics, Emory University (September 2011)
- Invited Speaker, Department of Statistics, Penn State University (October 2011)
- Invited Speaker, Department of Statistics, University of Michigan (November 2011)

- Invited Speaker, German Region of International Biometrics Society, Berlin (March 2012)
- Seminar Speaker, Department of Statistics, University of South Carolina (March 2012)
- Invited Speaker, Rand (May 2012)
- Keynote Speaker, Statistics Graduate Student Research Day, University of Toronto (April 2012)
- Invited Speaker, Workshop on Bayesian Inference for Latent Gaussian Models with Application, Trondheim, Norway (June 2012)
- Plenary Speaker, Centennial Anniversary Conference, Department of Mathematical Sciences, University of Memphis (May 2012)
- Invited Speaker, 8th International Purdue Symposium on Statistics, Purdue University (June 2012)
- Invited Short Course, University of Padova, Padova, Italy (June 2012)
- Invited Speaker, Joint Statistical Meetings, San Diego (July 2012)
- Invited Speaker, Bayesian Nonparametric Workshop, ICERM, Brown University (Sept 2012)
- Invited Speaker, Triangle Genetics Symposium, Chapel Hill, NC (Sept 2012)
- Invited Speaker, Scaling up EM Connectomics Workshop, Janelia Farm Research Campus (Oct 2012)
- Invited Speaker, Department of Statistics, NC State (Oct 2012)
- Invited Speaker, Stochastics Meeting Lunteren, Netherlands (Nov 2012)
- Invited Speaker, Recent Advances in Statistical Inference, Padua, Italy (March 2013)
- Invited Speaker, Department of Biostatistics, University of Minnesota (April 2013)
- Keynote Speaker, Bayesian nonparametrics conference, Amsterdam (June 2013)
- Invited Speaker, Joint Statistical Meetings, Montreal (August 2013)
- Invited Speaker, PDT Partners Hedge Fund (October 2013)
- Invited Speaker, Department of Statistics, Virginia Tech (October 2013)
- Invited Speaker, Department of Biostatistics, Brown University (December 2013)
- Invited Speaker, Department of Biostatistics, Johns Hopkins University (Jan 2014)
- Invited Speaker, Department of Statistics, University of Texas at Austin (March 2014)
- Invited Speaker, ENAR Biometrics Society Meeting, Baltimore (March 2014)
- Invited Speaker, Department of Statistics, University of Warwick, UK (May 2014)
- Invited Speaker, CANSII/SAMSI Geometric, Topological & Graphical Methods Workshop, Fields Institute, Toronto (May 2014)
- Keynote Speaker, ISBIS/SDLM Conference (June 2014)
- Invited Speaker, Bayesian Biostatistics Conference, University of Zurich, Switzerland (June 2014)
- Invited Speaker, Joint Statistical Meetings, Boston (August 2014)
- Invited Speaker, Uncertainty Quantification Summer School, USC (August 2014)
- Plenary Speaker, Workshop on Big Data & Machine Learning, Greensboro, NC (October 2014)
- Hartley Memorial Lecturer, Department of Statistics, Texas A&M (October 2014)
- Invited Speaker, Department of Statistics, Harvard University (October 2014)
- Invited Speaker, Center for Statistics & Machine Learning (inaugural speaker), Princeton University (November 2014)

- Invited Speaker, Department of Statistics, Yale University (November 2014)
- Keynote Speaker, Minghui Yu Memorial Conference, Columbia University (April 2015)
- Invited Speaker, 10th Conference on Bayesian Nonparametrics, Raleigh, NC (June 2015)
- Invited Speaker, Conference on Big Data, Harvard University, Boston, MA (August 2015)
- Invited Speaker, ORFE, Princeton University (October 2015)
- Invited Speaker, Machine Learning, Columbia University (October 2015)
- Invited Speaker, Statistics, University of Chicago (Nov 2015)
- Invited Panelist, Bayesian nonparametrics: The next generation, NIPS Workshop (Dec 2015)
- Plenary Speaker, Sixth IMS-ISBA Joint Meeting Bayes Comp, Lenzerheide (Jan 2016)
- Invited Speaker, ENAR Biometrics Society Meeting, Austin, Tx (March 2016)
- Invited Lecturer, Warwick University, UK (April 2016)
- Plenary Speaker, SIS2016, Salerno, Italy (June 2016)
- Keynote Speaker, International Society for Bayesian Analysis (ISBA) World Meeting, Sardina (June 2016)
- Invited Speaker, Workshop on Distributed and Parallel Data Analysis, SAMSI, Raleigh, NC (Sept 2016)
- Invited Speaker, Biostatistics, University of Michigan (Nov 2016)
- Invited Speaker, ENAR Biometrics Society Meeting, DC (March 2017)
- Invited Speaker, Stochastics, MIT (March 2017)
- Invited Speaker, Statistics, University of Missouri (April 2017)
- Bradley Lecturer, Statistics, University of Georgia (April 2017)
- Invited Speaker, Simons Institute, University of CA Berkeley (May 2017)
- Invited Speaker, Luminy, France (July 2017)
- Keynote Speaker, Bayesian seminar on Bayesian econometrics, Maastricht, Netherlands (October 2017)
- Snedecor Lecturer, Iowa State University (May 2018)
- David Finney Lecture, Edinburgh UK (May 2018)
- Keynote Speaker, Georgia Statistics Day, Athens, GA (Oct 2018)
- Invited Speaker, Scalable Bayes conference, Luminy, France (Nov 2018)
- NeurIPS tutorial, Montreal, Canada (Dec 2018)
- Invited Speaker, International BASP Frontiers Workshop, Villars-sur-Ollon, Switzerland (Feb 2019)
- Invited Speaker, Temple University (April 2019)
- Invited Demo, Leveraging Artificial Intelligence and Machine Learning to Advance Environmental Health Research and Decisions. National Academy of Science (June 2019)
- IMS Medallion Lecturer, Joint Statistical Meetings (August 2019)
- Visiting Professor, Bocconi University, Milan, Italy (September 2019)
- Invited Speaker, Data Science, University of Michigan (October 2019)
- Invited Speaker, Boston University (November 2019)

- Keynote Speaker, Statistics in the Life Sciences: Creating a Healthier World Workshop, Boston (November 2019)
- Invited Speaker, Center for the Discovery of Structure in Complex Data (MiDaS) (July 2020)
- Keynote Speaker, DSSV conference (July 2020)
- Multiple zoom etc talks in late 2020 - present ,
- Pinterest Labs Tech Talk, December 2022
- Invited Speaker, University of California at San Francisco, October 2023
- Invited Speaker, National Institute of Environmental Health Sciences, October 2023

Research Grants

- NOTE: NIH intramural investigators generally may not compete for extramural funds, so only became eligible for grants in August, 2008
- Principal Investigator, U.S. National Institutes of Health, R01 ES017240, "Nonparametric Bayes methods for biomedical studies" ($176,607/yr), 05/15/09-03/31/15
- Principal Investigator, U.S. National Institutes of Health, R01 ES017436, "Bayesian methods for assessing gene by environment interactions" ($220,523/yr), 09/25/09-06/30/14
- Co-PI, Defense Advanced Research Projects Agency FA8650-11-1-7150, "A Rigorous Statistical Framework for the Mathematics of Sensing, Exploitation and Execution", 07/01/11 - 12/31/12.
- Co-Investigator, Office of Naval Research N00014-08-1-0212, "Transfer and active learning for intent recognition" ($162,549/yr), 12/01/08-11/30/11
- Mini-PI, Defense Advanced Research Projects Agency N66001-07-C-2024, "Clinico-Molecular Predictors of Presymptomatic Infectious Disease" ($476,111/yr), 09/10/09-09/30/12
- Co-PI, Defense Advanced Research Projects Agency, "Advanced Statistical Analysis of High-Dimensional Nervous-System Data" ($233,352/yr), 03/30/11-02/28/12
- Co-Investigator, NIH (1R21-CA156168-01A1), "Exome-wide Screening for Common Mutations in Lymphoma" ($130,500/yr), 06/10/11-05/31/13
- Co-Investigator, NSF (SES-1131897), "NCRN-MN:Triangle Census Research Network," ($426,007/yr), 10/01/11-09/30/16
- Subaward-PI, U.S. National Institutes of Health, R01-ES020619, "Bayesian Methods for High-Dimensional Epidemiologic Data" ($74,886/yr), 8/24/11-05/31/16
- PI, Office of Naval Research (ONR), N00014-14-1-0245, "Bayesian Learning for High-Dimensional Low Sample Size Data" ($448,913), 5/1/14-4/30/17
- Co-Investigator, Health Effects Institute, 4946-RFPA10-3/14-7, "Air Quality by Genomics Interactions in a Cardiovascular Disease Cohort," ($316,202), 6/1/14-5/31/15
- Statistical Analyst, Leukemia & Lymphoma Society, 0747-14, "Predicting Treatment Futility in Refractory Diffuse Large B Cell Lymphoma," ($360,036), 1/1/14-12/31/15
- PI, Nestle Institute of Health Sciences, "Bayesian Models for Longitudinal Omics and Metabolomics Data", ($120,246), 11/15/15-11/15/16
- Co-Investigator, NIH, 1R01-GM117106-02, "New methods for quantitative modeling of protein-DNA interactions," 9/01/2015-08/31/2020
- Investigator, NIH, 1R01-CA193655-01, "Defining the Functional Role of Mutations in Diffuse Large B Cell Lymphoma," ($390,335), 4/1/15-3/31/20
- Co-Investigator, NIH, 1R21-CA195173-01, "The Genetics of Hepatosplenic T Cell Lymphoma," ($150,000), 4/01/15-3/31/17

- PI, NSF 1546130 "Scalable Bayes uncertainty quantification with guarantees" ($985,882), 11/01/15-10/31/19
- Subaward PI, NIH, 1R01-EB022915-01, "Network motifs in cortical computation," 9/27/16-9/26/19
- PI, ARI W911NF-16-1-0544, "Predicting performance from network data" ($742,129)
- co-PI, sub-contract Laboratory of Analytic Sciences "Theory and methods for coarsened decision making" ($\sim$ $100K)
- PI, Duke Accenture Program "Bayesian predictive analytics for targeted patient care" ($\sim$ $50K)
- co-PI, US National Institutes of Health, R01 "Reproducibility and robustness of dimensionality reduction", 2017-2022.
- PI, US National Institutes of Health, R01 "Structured nonparametric methods for mixtures of exposures", 2018-2022.
- PI, US National Institute of Health, R01, "CRNS: Geometry-based brain connectome analysis", 2018-2021.
- PI, Alibaba Innovative Research, "Scalable probabilistic inference for huge multi-domain graphs", 2017-2020.
- PI, Office of Naval Research, "Probabilistic learning of structure in complex data", 2017-2020.
- PI, Office of Naval Research, "Calibrated uncertainty quantification in statistical learning", N00014-21-1-2510, 2021-2023
- Joint-PI, European Research Council Synergy Grant, "Lifeplan: A planetary inventory of life - A new synthesis built on big data combined with novel statistical methods", 2020-2026.
- Multiple grants as co-I and co-PI - e.g., NSF (Simon Mak PI), NIH (Sandeep Dave PI)
- PI, US National Institutes of Health, R01, "Improving inferences on health effects of chemical exposures", R01ES035625, 2023-2028