

Curriculum Vitae

Timothy Hanson

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Education

Ph.D. Statistics, July 2000. University of California, Davis. Dissertation topic: Bayesian semiparametric survival analysis and diagnostic screening. Advisor: Dr. W. Johnson.

M.S. Statistics, December 1998. University of California, Davis.

M.A. Mathematics, December 1996. University of New Mexico, Albuquerque.

B.S. Mathematics, March 1992. University of Minnesota, Minneapolis.

Academic positions

Professor, University of South Carolina, January 2012 – present.

Associate Professor, University of South Carolina, August 2010 – January 2012 (tenured).

Associate Professor, University of Minnesota, August 2005 – August 2010 (tenured 2008).

Assistant Professor, University of New Mexico, August 2000 – May 2005.

Awards, Honors, and Appointments

Elected Fellow of the American Statistical Association in 2013 “...for seminal contributions to the theory, application and practical implementation of Bayesian nonparametric models and their application to survival analysis, regression and diagnostic outcome data; for authoring a widely-used Bayesian textbook, editorial service, outstanding teaching, mentoring and service to the profession.”

Elected to Delta Omega Honorary Public Health Society in 2007.

Honorable Mention: Leonard J. Savage Award for Outstanding Doctoral Dissertation in the year 2000.

Julius Blum Memorial Award: Division of Statistics, U.C. Davis; Outstanding student of the year 1998.

Research

Publications

Submitted papers

**Ph.D. student dissertation work under my direct advisement. *Other student thesis/dissertation work.

- **Zhou, H., Hanson, T., and Zhang, J. `spBayesSurv`: fitting Bayesian spatial survival models using R. Submitted.
- Zhang, J., Hanson, T., and Zhou, H. Bayes factors for choosing among six common survival models. In revision for *Lifetime Data Analysis*.
- **Cipolli, W. and Hanson, T. Supervised learning for high dimensional data through marginalized multivariate Polya trees. Submitted.
- *Kindo, B.P., Wang, H., Hanson, T., and Peña, E. Bayesian quantile additive regression trees. Submitted.
- Zhou, H. and Hanson, T. A unified framework for fitting Bayesian semiparametric models to arbitrarily censored spatial survival data. In revision for *Journal of the American Statistical Association*.
- Li, L., García-Zattera, M., Jara, A., and Hanson, T. Marginal Bayesian semiparametric modelling of mismeasured multivariate interval-censored data. In revision for *Journal of the American Statistical Association*.

Books

1. Müller, P., Quintana, F., Jara, A., and Hanson, T. (2015). *Bayesian Nonparametric Data Analysis*. Springer-Verlag: Switzerland.
2. Christensen, R., Johnson, W., Branscum, A., and Hanson, T. (2010). *Bayesian Ideas and Data Analysis: An Introduction for Scientists and Statisticians*. CRC Press, Boca Raton.

Peer reviewed journals: statistical methodology

3. *Sun, M., Chen, Y., and Hanson, T. Nonparametric multivariate Polya tree EWMA control chart for process changepoint detection. *Statistics and Its Interface*, accepted.
4. McMahan, C.S., Tebbs, J.M., Hanson, T.E., and Bilder, C.R. Bayesian regression for group testing data. *Biometrics*, accepted.
5. Chen, Y. and Hanson, T. Copula regression models for discrete and mixed multivariate responses. *Journal of Statistical Theory and Practice*, accepted.
6. Chen, Y. and Hanson, T. Flexible parametrization of variance functions for quantal response data derived from counts. *Journal of Biopharmaceutical Statistics*, accepted.
7. **Zhou, H., Hanson, T., and Zhang, J. Generalized accelerated failure time spatial frailty model for arbitrarily censored data. *Lifetime Data Analysis*, accepted.

8. Hanson, T., de Carvalho, M., and Chen, Y. (2017). Bernstein polynomial angular densities of multivariate extreme value distributions. *Statistics & Probability Letters*, 128, 60–68.
9. **Bao, J., Hanson, T., McMillan, G., and Knight, K. (2017). Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes. *Biometrics*, 73, 334–343.
10. **Cipolli, W. and Hanson, T. (2017). Computationally tractable approximate and smoothed Polya trees. *Statistics and Computing*, 27, 39–51.
11. Chen, Y. and Hanson, T. (2017). Semiparametric regression control charts. *Journal of Statistical Theory and Practice*, 11, 126–144.
12. **Bao, J. and Hanson, T. (2016). A mean-constrained finite mixture of normals. *Statistics & Probability Letters*, 117, 93–99.
13. **Cipolli, W., Hanson, T., and McLain, A. (2016). Bayesian nonparametric multiple testing. *Computational Statistics & Data Analysis*, 101, 64–79.
14. **Zhou, H., Hanson, T., and Knapp, R. (2015). Marginal Bayesian nonparametric model for the time-to-infection of a threatened amphibian. *Biometrics*, 71, 1101–1110.
15. *Branscum, A., Johnson, W., Hanson, T., and Baron, A. (2015). Flexible regression models for ROC and risk analysis, with or without a gold standard, *Statistics in Medicine*, 34, 3997–4015.
16. **Bao, J. and Hanson, T. (2015). Bayesian nonparametric multivariate ordinal regression. *Canadian Journal of Statistics*, 43, 337–357.
17. *Zantek, P., Hanson, T., Damien, P., and Popova, E. (2015). A decision dependent stochastic process model for repairable systems with applications. *Operations Research Perspectives*, 2, 73–80.
18. **Zhou, H., Hanson, T., Jara, A., and Zhang, J. (2015). Modelling county level breast cancer survival data using a covariate-adjusted frailty proportional hazards model. *Annals of Applied Statistics*, 9, 43–68.
19. **Li, L., Hanson, T., and Zhang, J. (2015). Spatial extended hazard model with application to prostate cancer survival. *Biometrics*, 71, 313–322.
20. *Li, P., Banerjee, S., Hanson, T., and McBean, A. (2015). Bayesian hierarchical models for detecting boundaries in areally referenced spatial datasets. *Statistica Sinica*, 25, 385–402.
21. **Chen, Y. and Hanson, T. (2014). Bayesian nonparametric density estimation for doubly-truncated data. *Statistics and Its Interface*, 4, 455–463.
22. Hanson, T., Branscum, A., and Johnson, W. (2014). Informative g-priors for logistic regression. *Bayesian Analysis*, 9, 597–612.
23. **Li, L., Hanson, T., Damien, P., and Popova, E. (2014). A Bayesian nonparametric test for minimal repair. *Technometrics*, 56, 393–406.
24. **Chen, Y., Hanson, T., and Zhang, J. (2014). Accelerated hazards model based on parametric families generalized with Bernstein polynomials. *Biometrics*, 70, 192–201.

25. *Kirschenmann, T., Popova, E., Damien, P., and Hanson, T. (2014). Decision dependent stochastic processes. *European Journal of Operational Research*, 234, 731-742.
26. **Li, L. and Hanson, T. (2014). A Bayesian semiparametric regression model for reliability data using effective age. *Computational Statistics and Data Analysis*, 73, 177-188.
27. **Xu, L., Bedrick, E., Hanson, T., and Restrepo, C. (2014). A comparison of statistical tools for identifying modality in body mass distributions. *Journal of Data Science*, 12, 175-196.
28. **Chen, Y. and Hanson, T. (2014). Bayesian nonparametric k-sample tests for censored and uncensored data. *Computational Statistics and Data Analysis*, 71, 335-346.
29. *Inacío de Carvalho, V., Jara, A., Hanson, T., and de Carvalho, M. (2013). Bayesian nonparametric ROC regression modeling. *Bayesian Analysis*, 8, 623-646.
30. McMillan, G., Hanson, T., Saunders, G., and Gallun, F. (2013). A two-component circular regression model for repeated measures auditory localization data. *Journal of the Royal Statistical Society: Series C*, 62, 515-534.
31. *Schörgendorfer, A., Branscum, A., and Hanson, T. (2013). A Bayesian goodness of fit test and semiparametric generalization of logistic regression with measurement data. *Biometrics*, 69, 508-519.
32. *Boyer, T., Hanson, T., and Singer, R. (2013). Estimation of low quantity genes: a hierarchical model for analyzing censored quantitative real-time PCR data. *PLoS One*, 8(5): e64900.
33. **Hanson, T., Jara, A., and Zhao, L. (2012). A Bayesian semiparametric temporally stratified proportional hazards model with spatial frailties. *Bayesian Analysis*, 7, 147-188.
34. Hanson, T. and McMillan, G. (2012). Scheffe style simultaneous credible bands for regression surfaces with application to Ache honey gathering, *Journal of Data Science*, 10, 175-193.
35. Jara, A. and Hanson, T. (2011). A class of dependent tailfree priors. *Biometrika*, 98, 553-566.
36. *Jara, A., Hanson, T., Quintana, F., Müller, P., and Rosner, G. (2011). DPpackage: Bayesian Non- and Semi-parametric Modelling in R. *Journal of Statistical Software*, 40, 1-30.
37. **Zhao, L. and Hanson, T. (2011). Spatially dependent Polya tree modeling for survival data. *Biometrics*, 67, 391-403.
38. **Hanson, T., Monteiro, J., and Jara, A. (2011). The Polya tree sampler: Towards efficient and automatic independent Metropolis-Hastings proposals. *Journal of Computational and Graphical Statistics*, 20, 41-62.
39. Li, M. and Hanson, T. (2011). Bayesian nonparametric multivariate statistical models for testing association between quantitative traits and candidate genes in structured populations. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 60, 207-219.
40. Johnson, W., Branscum, A., and Hanson, T. (2011). Rejoinder for “Predictive comparison of joint longitudinal-survival modeling: a case study illustrating competing approaches.” *Lifetime Data Analysis*, 17, 37-42.

41. Hanson, T., Branscum, A., and Johnson, W. (2011). Predictive comparison of joint longitudinal-survival modeling: A case study illustrating competing approaches (with discussion). *Lifetime Data Analysis*, 17, 3–18.
42. Ghosh, P. and Hanson, T. (2010). A semiparametric Bayesian approach to multivariate longitudinal data. *Australian and New Zealand Journal of Statistics*, 52, 275–288.
43. Jones, G., Johnson, W., Hanson, T., and Christensen, R. (2010). Identifiability of models for multiple diagnostic testing in the absence of a gold standard. *Biometrics*, 66, 855–863.
44. *Li, M., Reilly, C., and Hanson, T. (2010). Association tests for a censored quantitative trait and candidate genes in structured populations with multilevel genetic relatedness. *Biometrics*, 66, 925–933.
45. **Xu, L., Hanson, T., Bedrick, E., and Restrepo, C. (2010). Hypothesis tests on mixture model components with applications in ecology and agriculture. *Journal of Agricultural, Biological, and Environmental Statistics*, 15, 308–326.
46. *Jara, A., Hanson, T., and Lesaffre, E. (2009). Robustifying generalized linear mixed models using a new class of mixtures of multivariate Polya trees. *Journal of Computational and Graphical Statistics*, 18, 838–860.
47. **Zhao, L., Hanson, T., and Carlin, B. (2009). Flexible spatial frailty modeling via mixtures of Polya trees. *Biometrika*, 96, 263–276.
48. Hanson, T., Johnson, W., and Laud, P. (2009). Semiparametric inference for survival models with step process covariates. *Canadian Journal of Statistics*, 37, 60–79.
49. *Li, M., Reilly, C., and Hanson, T. (2008). A semiparametric test to detect associations between quantitative traits and candidate genes in structured populations. *Bioinformatics*, 24, 2356–2362.
50. Christensen, R., Hanson, T., and Jara, A. (2008). Parametric nonparametric statistics: An introduction to mixtures of finite Polya trees. *The American Statistician*, 62, 296–306.
51. Branscum, A. and Hanson, T. (2008). Bayesian nonparametric meta-analysis using Polya tree mixture models. *Biometrics*, 64, 825–833.
52. **Yang, M., Hanson, T., and Christensen, R. (2008). Nonparametric Bayesian estimation of a bivariate density with interval censored data. *Computational Statistics and Data Analysis*, 52, 5202–5214.
53. Branscum, A., Johnson, W., Hanson, T., and Gardner, I. (2008). Bayesian semiparametric ROC curve estimation and disease risk assessment. *Statistics in Medicine*, 27, 2474–2496.
54. *Branscum, A., Hanson, T., and Gardner, I. (2008). Bayesian nonparametric models for regional prevalence estimation. *Journal of Applied Statistics*, 35, 567–582.
55. Hanson, T., Branscum, A., and Gardner, I. (2008). Multivariate mixtures of Polya trees for modelling ROC data. *Statistical Modelling*, 8, 81–96.
56. Hanson, T., Kottas, A., and Branscum, A. (2008). Modelling stochastic order in the analysis of receiver operating characteristic data: Bayesian nonparametric approaches. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 57, 207–225.

57. Hanson, T. and Pearson, O. (2007). Fitting MANOVA models with missing continuous or ordinal data using reference priors. *Communications in Statistics: Simulation and Computation*, 36, 621-630.
58. *Damien, P., Galenko, A., Popova, E., and Hanson, T. (2007). Bayesian semiparametric analysis for a single item maintenance optimization. *European Journal of Operational Research*, 182, 794-805.
59. **Hanson, T. and Yang, M. (2007). Bayesian semiparametric proportional odds models. *Biometrics*, 63, 88-95.
60. Hanson, T. (2006). Inference for mixtures of finite Polya tree models. *Journal of the American Statistical Association*, 101, 1548-1565.
61. Hanson, T. (2006). Modeling censored lifetime data using a mixture of gammas baseline. *Bayesian Analysis*, 1, 575-594.
62. Hanson, T., Johnson, W., and Gastwirth, J. (2006). Bayesian inference for prevalence and diagnostic test accuracy based on dual-pooled screening. *Biostatistics*, 7, 41-57.
63. McMillan, G. and Hanson, T. (2005). SAS macro BDM for fitting the Dale regression model to bivariate ordinal response data. *Journal of Statistical Software*, 14, 1-12.
64. **Hanson, T., Sethuraman, J., and Xu, L. (2005). On choosing the centering distribution in Dirichlet process mixture models. *Statistics and Probability Letters*, 72, 153-162.
65. Hanson, T. and Johnson, W. (2004). A Bayesian semiparametric AFT model for interval censored data. *Journal of Computational and Graphical Statistics*, 13, 341-361.
66. Hanson, T., Johnson, W., Gardner, I., and Georgiadis, M. (2003). Determining the infection status of a herd. *Journal of Agricultural, Biological, and Environmental Statistics*, 8, 469-485.
67. Hanson, T., Johnson, W., and Gardner, I. (2003). Hierarchical models for estimating herd prevalence and test accuracy in the absence of a gold-standard. *Journal of Agricultural, Biological, and Environmental Statistics*, 8, 223-239.
68. Hanson, T., Bedrick, E., Johnson, W., and Thurmond, M. (2003). A mixture model for bovine abortion and fetal survival. *Statistics in Medicine*, 22, 1725-1739.
69. Hanson, T. and Johnson, W. (2002). Modeling regression error with a mixture of Polya trees. *Journal of the American Statistical Association*, 97, 1020-1033.

Peer reviewed journals: collaborative

70. *Liu, J., Liu, S., Zhou, H., Hanson, T., Yang, L., Chen, Z., and Zhou, M. (2016). Association of green tea consumption with mortality from all-cause, cardiovascular disease and cancer in a Chinese cohort of men. *Journal of European Epidemiology*, 31, 853-865.
71. Fowler, J., Cipolli, W., and Hanson, T. (2015). A comparison of three diagnostic tests for diagnosis of carpal tunnel syndrome using latent class analysis. *Journal of Bone & Joint Surgery*, 97, 1958-1961.
72. McMillan, G. and Hanson, T. (2014). Sample size requirements for establishing clinical test-retest standards. *Ear and Hearing*, 35, 283-286.

73. Liimatainen, T., Sierra, A., Hanson, T., Sorce, D., Ylä-Herttuala, S., Garwood, M., Michaeli, S., Gröhn, O. (2012). Glioma cell density in a rat gene therapy model gauged by water relaxation rate along a fictitious magnetic field. *Magnetic Resonance in Medicine*, 67, 269–277.
74. Buijze, G., Mallee, W., Beeres, F., Hanson, T., Johnson, W., and Ring, D. (2011). Diagnostic performance tests for suspected scaphoid fractures differ with conventional and latent class analysis. *Clinical Orthopaedics and Related Research*, 469, 3400–3407.
75. McMillan, G., Saunders, G., and Hanson, T. (2011). A statistical model of horizontal auditory localization performance data. *Journal of the Acoustical Society of America*, 129, EL229–EL235.
76. Shrivastava, D., Hanson, T., Kulesa, J., Tian, J., Adriany, G., and Vaughan, T.J. (2011). Radiofrequency heating in porcine models with a “Large” 32 cm internal diameter, 7 T (296 MHz) head coil. *Magnetic Resonance in Medicine*, 66, 255–263.
77. Buijze, G., Hanson, T., Johnson, W., and Ring, D. (2010). Latent class analysis to determine the accuracy of diagnostic tests in orthopaedics. *Orthopaedic Journal at Harvard Medical School*, 12, 106–108.
78. Shrivastava, D., Absoch, A., Hanson, T., Tian, J., Gupte, A., Iaizzo, P., and Vaughan, J.T. (2010). Effect of the extracranial portion of a deep brain stimulation lead on radiofrequency heating at 9.4 Tesla (400.2 MHz). *Journal of Magnetic Resonance Imaging*, 32, 600–607.
79. *Rafati, N., Mehrabani-Yeganeh, H., and Hanson, T. (2010). Prediction of the probability of abortion in dairy cows of industrial herds of Tehran region. *Preventive Veterinary Medicine*, 96, 170–178.
80. Nestrasil, I., Michaeli, S., Liimatainen, T., Rydeen, C., Kotz, C., Nixon, J., Hanson, T., and Tuite, P. (2010). $T_{1\rho}$ and $T_{2\rho}$ MRI in the evaluation of Parkinson’s disease. *Journal of Neurology*, 257, 964–968.
81. Baab, K., Freidline, S., Wang, S., and Hanson, T. (2010). Robusticity to cranial form, geography and climate in *Homo sapiens*. *American Journal of Physical Anthropology*, 141, 97–115.
82. Shrivastava, D., Hanson, T., Kulesa, J., DelaBarre, L., Snyder, C., and Vaughan, T.J. (2009). Radio-frequency heating at 9.4T: In vivo thermoregulatory temperature response in swine. *Magnetic Resonance in Medicine*, 62, 888–895.
83. Singer, R., Mayer, A., Hanson, T., and Isaacson, R. (2009). Do microbial interactions and cultivation media decrease the accuracy of *Salmonella* surveillance systems and outbreak investigations? *Journal of Food Protection*, 72, 707–713.
84. Muñoz-Zanzi, C., Trampel, D., Hanson, T., Harrison, K., Goyal, S., Cortinas, R., and Lauer, D. (2009). Field estimation of the flock-level diagnostic specificity of an enzyme-linked immunosorbent assay for Avian metapneumovirus antibodies in turkeys. *Journal of Veterinary Diagnostic Investigation*, 21, 240–243.
85. Michaeli, S., Burns, T.C., Kudishevich, E., Hanson, T., Sorce, D.J., Garwood, M., and Low, W.C. (2009). Detection of neuronal loss using $T_{1\rho}$ MRI assessment of $^1\text{H}_2\text{O}$ spin dynamics in the *aphakia* mouse model. *Journal of Neuroscience Methods*, 177, 160–167.

86. Johnson, T.E., Kassie, F., O'Sullivan, G., Negia, M., Hanson, T., Upadhyaya, P., Ruvolo, P.P., Hecht, S.S., Xing, C. (2008). Chemopreventive effect of kava on 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone plus benzo[*a*]pyrene-induced lung tumorigenesis in A/J mice. *Cancer Prevention Research*, 1, 430–438.
87. Shrivastava, D., Hanson, T., Schlentz, R., Gallagher, W., Snyder, C., DelaBarre, L., Prakash, S., Iaizzo, P., and Vaughan, J.T. (2008). Radiofrequency heating at 9.4T: In vivo temperature measurement results in swine. *Magnetic Resonance in Medicine*, 59, 73-78.
88. McMillan, G., Hanson, T., and Lapham, S. (2007). Geographic variability in alcohol-related crashes in response to legalized Sunday packaged alcohol sales in New Mexico. *Accident Analysis and Prevention*, 39, 252-257.
89. McMillan, G., Hanson, T., Bedrick, E., and Lapham, S. (2005). Using the bivariate Dale model to jointly estimate predictors of frequency and quantity of alcohol use. *Journal of Studies on Alcohol*, 65, 643-650.
90. *Thurmond, M., Branscum, A., Johnson, W., Bedrick, E. and Hanson, T. (2005). Predicting the probability of abortion in dairy cows: a hierarchical Bayesian logistic-survival model using sequential pregnancy data. *Preventive Veterinary Medicine*, 68, 223-239.
91. Marks, S., Hanson, T., and Melli, A. (2004). Comparison of direct immunofluorescence, modified acid-fast staining, and enzyme immunoassay techniques for detection of *Cryptosporidium* spp in naturally exposed kittens. *Journal of the American Veterinary Medical Association*, 225, 1549-1553.
92. Schöllnberger, H., Menache, G., and Hanson, T. (2001). A biomathematical modeling approach to explain the phenomenon of radiation hormesis. *Human and Ecological Risk Assessment*, 7, 867-890.
93. Schöllnberger, H., Scott, B., and Hanson, T. (2001). Application of Bayesian inference to characterize risks associated with low doses of low-LET radiation. *Bulletin of Mathematical Biology*, 63, 865-883.
94. Hanson, T., Johnson, W., and Gardner, I. (2000). Log-linear and logistic modeling of dependence among diagnostic tests. *Preventive Veterinary Medicine*, 45, 123-137.

Book chapters, comment

95. *Hanson, T., Banerjee, S., Li, P., and McBean, A. (2015). Spatial Boundary Detection for Areal Counts. In *Nonparametric Bayesian Methods in Biostatistics and Bioinformatics (Frontiers in Probability and the Statistical Sciences)*, pp. 377-399. R. Mitra and P. Müller, editors. Springer-Verlag.
96. **Zhou, H. and Hanson, T. Bayesian Spatial Survival Models. (2015). In *Nonparametric Bayesian Methods in Biostatistics and Bioinformatics (Frontiers in Probability and the Statistical Sciences)*, pp. 215-246. R. Mitra and P. Müller, editors. Springer-Verlag.
97. Hanson, T. and Jara, A. (2013). Surviving fully Bayesian nonparametric regression models. In *Bayesian Theory and Applications*, pp. 593–615. P. Damien, P. Dellaportas, N. Polson, and D. Stephens, eds. Oxford University Press: Oxford.

98. Popova, E., Morton, D., Damien, P., and Hanson, T. (2010). Bayesian analysis and decisions in nuclear power plant maintenance. In the *The Oxford Handbook of Applied Bayesian Analysis*, 219-240. A. O’Hagan, and M. West, eds. Oxford University Press: Oxford.
99. Hanson, T. (2007). Polya trees and their use in reliability and survival analysis, in *Encyclopedia of Statistics in Quality and Reliability*, Ruggeri, F., Kenett, R. and Faltin, F.W. (eds). John Wiley & Sons Ltd., Chichester, UK, pp. 1385-1390.
100. Hanson, T., Johnson, W., and Laud, P. (2007). A semiparametric accelerated failure time model for survival data with time dependent covariates. In *Bayesian Statistics and its Applications*, 254-269. Edited by S.K. Upadhyay, U. Singh, and D.K. Dey. New Delhi: Anamaya Publishers.
101. Hanson, T., Branscum, A., and Johnson, W. (2005). Bayesian nonparametric modeling and data analysis: an introduction. In *Bayesian Thinking: Modeling and Computation (Handbook of Statistics, volume 25)*, 245-278. Edited by D.K. Dey and C.R. Rao. Amsterdam: Elsevier.
102. Johnson, W. and Hanson, T. (2005). Comment on “On model expansion, model contraction, identifiability and prior information: Two illustrative scenarios involving mismeasured variables,” by Paul Gustafson. *Statistical Science*, 20, 131-134.
103. Johnson, W., Hanson, T., Gastwirth, J. and Gardner, I. (2001). Pooled sample screening with quality control. *Bayesian methods with applications to science, policy, and official statistics*. E.I. George, Ed. pp. 253-261.

External support

Under review

- Agency: NIH R03. A New Spatiotemporal Survival Model Accounting for Geographical Residence Change.
- Agency: NIH R21. Innovative Spatial Survival Model Allowing for Short and Long Term Cancer Survivors.

Current

- None.

Completed

1. Agency: NIH R03. Co-PI’s: T. Hanson and J. Zhang (Epidemiology and Biostatistics, U. South Carolina). Title: Innovative Spatial Survival Models with Geographically Varying Coefficients. Total award: \$145,000. Effort: 10%. Dates 2/17/2012–1/31/2015. *This grant supported Li Li and Haiming Zhou’s dissertation work under Hanson’s supervision.*
2. Agency: NIH R03. Co-PI’s: T. Hanson and J. Zhang. Title: Innovative Spatio-temporal Survival Models Allowing Crossing Survival. Total award: \$144,000. Effort: 10%. Dates: 1/1/2014–12/31/2015. *This grant supported Haiming Zhou’s dissertation work under Hanson.*

3. Agency: NSF. PI: T. Hanson. Title: Collaborative research: Decision-dependent stochastic processes – inference and optimization. Total award: \$136,000. Effort: 8.5%. Dates: 8/1/09–7/31/11. *This grant supported Li Li’s dissertation under Hanson.*
4. Agency: NIH R01. PI: B. Carlin (Biostatistics, U. Minnesota). Title: Statistical Methods in Cancer Control and Epidemiology (SMICCE 2). Total award: \$1,238,570. Effort: 15% (Hanson was Co-Investigator). Dates: 8/1/08–7/31/11. *This grant supported Luping Zhao’s dissertation under Hanson.*
5. Agency: NIH R01. PI: J.T. Vaughan (Center for Magnetic Resonance Research, Radiology, U. Minnesota). Title: RF Safety for Ultra-High Field MRI. Total award: \$1,494,898. Effort: 10% (Hanson was Statistician). Dates 9/15/07–6/30/11.
6. Agency: NIH R01. PI: S. Michaeli (Center for Magnetic Resonance Research, Minnesota). Title: Novel MRI Methods for Neuronal Loss and Iron Quantification. Total award: \$990,939. Effort: 10% (Hanson was Co-I). Dates: 9/1/08–2/28/11.
7. Agency: NIH R21. PI: S. Michaeli. Title: Assessment of Brain Iron and Neuronal Integrity Using Novel T1r and T2r MRI. Total award: \$150,000. Effort: 5% (Hanson was Biostatistician). Dates: 9/15/08–2/28/11.
8. Agency: NIH R01. PI: C. Xing (Medicinal Chemistry, Minnesota). Title: Bcl-2 selective inhibitors: development and application to cancer treatment. Total award: \$836,809. Effort: 2.5% (Hanson was Co-Investigator). Dates: 6/1/06–7/31/10.
9. Agency: NIH R03. PI: C. Xing. Title: Identification of Chemoprevention Agents against Lung Cancer Induced by Smoking. Total award \$149,500. Effort: 2.5% (Hanson was Co-Investigator). Dates: 8/1/07–10/31/09.
10. Agency: Sandia National Laboratories Subcontract. PI: T. Hanson. Title: Reliability of Passive Safety Systems. Dates: 5/15/06–9/15/06. Effort: 99% over 16 weeks is 30% annual effort.
11. Agency: NSF-HRD 0206200. PI: E. Bedrick (Mathematics and Statistics, New Mexico). Title: Multimodality in body size: A quantitative approach to investigate patterns and processes in the distribution of body size in animal assemblages. Effort: 15% (Hanson was Co-I). Dates: 8/31/02–7/30/05. *This grant supported Ling Xu’s dissertation under Hanson.*

Invited presentations

1. “A unified framework for fitting Bayesian semiparametric models to arbitrarily censored spatial survival data.” 5th Workshop on Biostatistics and Bioinformatics. Georgia State University, May, 2017.
2. “Why Bayesian nonparametrics?” Roundtable discussion with Wes Johnson, Michele Guindani, Igor Prünster, and Weining Shen. U.C. Irvine Dept. Statistics, April 2017.
3. “Spatial survival modeling of fungus arrival time for threatened amphibian populations.” Macalester College, April, 2017.
4. “A unified framework for fitting Bayesian semiparametric models to arbitrarily censored spatial survival data.” Dept. Statistics, Northern Illinois University, March 2017.

5. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." Dept. Statistics, Northern Illinois University, March 2017.
6. "A unified framework for fitting Bayesian semiparametric models to arbitrarily censored spatial survival data." U. Arizona, December 2016.
7. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." J.S.M. Chicago, July 2016.
8. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." I.S.B.A. Sardinia, Italy. June 2016.
9. "Marginal Survival Modeling through Spatial Copulas." University of Michigan Department of Biostatistics. March, 2016.
10. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." U. New Mexico Dept. Mathematics and Statistics. March 2016.
11. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." Wake Forest University Dept. Biostatistical Sciences. March 2016.
12. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." U. South Carolina Dept. Epidemiology and Biostatistics. February 2016.
13. "Assessment of DPOAE test-retest difference curves via hierarchical Gaussian processes." U. Texas El Paso Dept. Mathematical Sciences. February 2016.
14. "Recent Advances in Bayesian Spatial Survival Modeling." U. Alabama Dept. Mathematics. April 2015.
15. "Spatial Survival Analysis via Copulas." International Conference on Survival Analysis in Memory of John P. Klein, Medical School of Wisconsin. June 2014.
16. "Covariate-Adjusted Frailty Distributions in the Proportional Hazards Model." Dept. Mathematical Sciences, Clemson University. Sept. 2012.
17. "Application of Dependent Processes to Covariate-Adjusted Frailty Distributions in the Proportional Hazards Model". Joint Statistical Meetings, San Diego. August 2012.
18. "Applied Bayesian Nonparametrics" (three day course with A. Jara). University of South Carolina Department of Statistics. August, 2011.
19. "The Polya Tree Sampler: Towards Efficient and Automatic Metropolis-Hastings Proposals." *Journal of Computational and Graphical Statistics* invited session: Highlights of 2011. Miami, August 2011.
20. "Identifiability of Models for Multiple Diagnostic Testing with no Gold Standard." Invited Session: New statistical methods for evaluating diagnostic tests in the absence of gold standard, ENAR Meeting, Miami, March 2011.
21. "Bayesian Survival Analysis: Introduction and Extensions for Dependent Data." Pontificia Universidad Católica de Chile Department of Statistics, January 2011.
22. "Modeling Dependence in Survival/Reliability Data via Bayesian Nonparametric Priors." Division of Epidemiology and Biostatistics, Medical University of South Carolina, November 2010.
23. "Applied Bayesian Nonparametrics" (week-long course with A. Jara). École Polytechnique Fédérale de Lausanne, Switzerland. October, 2010.
24. "Modeling Dependence in Survival Data via Bayesian Nonparametric Priors." Department of Epidemiology and Biostatistics, University of South Carolina, September 2010.

25. “A Natural Nonparametric Generalization of Parametric Statistical Models.” Joint Statistical Meetings, Vancouver, August 2010.
26. Two keynote lectures: (a) “Introduction to Bayesian Survival Analysis” and (b) “Generalizations and Extensions of Bayesian Survival Models Involving Dependence.” IAP-Workshop, Leuven, Belgium: *Modeling Association and Dependence in Complex Data*; November 2009.
27. “Applied Bayesian Nonparametrics” (two day short course with A. Jara). IAP-Workshop, Leuven, Belgium: *Modeling Association and Dependence in Complex Data*; November 2009.
28. “Introduction to Bayesian Survival Analysis.” Department of Statistics, Universidad de Concepción, Chile; October 2009.
29. “Approximating an unnormalized density with a mixture of Polya trees.” 7th Workshop on Bayesian Nonparametrics, Collegio Carlo Alberto, Moncalieri, Italy; June 2009.
30. “Some Classes of Dependent Tailfree Processes with Applications.” 7th Workshop on Bayesian Nonparametrics, Collegio Carlo Alberto, Moncalieri, Italy; June 2009.
31. “Some Classes of Dependent Tailfree Processes with Applications.” Department of Statistics, Ohio State University; March 2009.
32. “Some Classes of Dependent Tailfree Processes with Applications.” Department of Statistical Science, Duke University; February 2009.
33. “Nonparametric and multivariate extensions of meta analysis models” (keynote lecture). 9th Annual Chilean Biostatistical Conference, Universidad de Concepción, Chile; January 2009.
34. “A Natural Nonparametric Generalization of Parametric Statistical Models.” Distinguished speaker at Division of Statistics and Scientific Computation, U.T. Austin; November, 2008.
35. “Bayesian Semiparametric Modeling Based on Mixtures of Polya Trees.” Joint Statistical Meetings, Salt Lake City; August, 2007.
36. “Flexible spatial frailty modeling via mixtures of Polya trees.” WNAR/IMS Annual Meeting, Irvine, California; June, 2007.
37. “Mixtures of Polya Tree priors for generalizing parametric hierarchical models.” Fifth Bayesian Nonparametrics Workshop, Jeju Island, South Korea; June, 2006.
38. “Robustifying Parametric Models via Mixtures of Polya Tree Priors.” University of Waterloo Department of Statistics and Actuarial Science; April 2006.
39. “Robustifying Parametric Models via Mixtures of Polya Tree Priors.” Department of Mathematical Sciences, University of Montana, Missoula; March, 2006.
40. “Robustifying Parametric Models via Mixtures of Polya Tree Priors.” University of Minnesota Department of Statistics; October, 2005.
41. “Some Applications of the Mixture of Polya Trees Prior to Survival Models.” University of Georgia Department of Statistics, Athens; February, 2005.
42. “A Brief Introduction to Some Statistical Ideas Emphasizing Tools from the Mathematics Curriculum.” Department of Mathematics and Statistics, Williams College; January, 2005.
43. “Generalizing parametric models through Mixtures of Polya Tree Priors.” Los Alamos National Laboratory, October, 2004.

44. "Some Applications of the Mixture of Polya Trees Prior to Survival Models." M.D. Anderson Cancer Center Department of Biostatistics and Applied Mathematics, Houston; September, 2004.
45. "Generalizing Standard Parametric Models with Mixtures of Polya Trees." Albuquerque Chapter of the A.S.A.; Sante Fe; September, 2004.
46. "Bayesian Semiparametric Models for Survival Data with Time-dependent Covariates." Invited Session: *Bayesian Nonparametric and Semiparametric Biostatistical Methods*, Joint Statistical Meetings, Toronto; August 2004.
47. "Bayesian Mixture Modeling." Department of Biology and CREST-CATEC, San Juan, University of Puerto Rico; March, 2004.
48. "An Introduction to Bayesian Statistics." Department of Biology and CREST-CATEC, San Juan, University of Puerto Rico; March, 2004.
49. "Bayesian Statistics in Ecology." Savannah River Ecology Lab, South Carolina; April, 2003.
50. "Modeling Regression Error with a Mixture of Polya Trees." I.S.D.S., Duke, Durham, N.C.; February, 2002.
51. "Modeling Regression Error with a Mixture of Polya Trees." Savage Award Finalist Invited Session, Joint Statistical Meetings, Atlanta, Georgia; August, 2001.
52. "Fitting Bayesian Models with M.C.M.C." Lovelace Respiratory Institute, Albuquerque; July, 2001.
53. "Fitting Bayesian Models with M.C.M.C." Lovelace Respiratory Institute, Albuquerque; August, 2001.
54. "Modeling survival data with mixtures of Polya trees." University of Minnesota Department of Statistics; March, 2001.
55. "Statistical methods for analyzing correlated diagnostic test data." Graduate Group in Epidemiology Seminar, University of California at Davis; March, 2000.
56. "Correlated diagnostic tests." Sacramento Chapter of the American Statistical Association Annual Institute on Research and Statistics; April, 1999.

Ph.D. students advised

1. William Cipolli III, Assistant Professor, Colgate University Dept. Mathematics. Dissertation title: *Bayesian Nonparametric Approaches to Multiple Testing, Density Estimation and Supervised Learning*. Defended April 2016.
2. Junshu Bao, Assistant Professor, Duquesne University Dept. Mathematics & Computer Science. Dissertation title: *Development and Application of Bayesian Semiparametric Models for Dependent Data*. Defended March 2016.
3. Haiming Zhou, Assistant Professor, Northern Illinois University Dept. of Statistics. Dissertation title: *Bayesian Semi- and Non-parametric Analysis for Spatially Correlated Survival Data*. Defended May 2015.
4. Li Li, Assistant Professor, University of New Mexico Dept. Mathematics and Statistics. Dissertation title: *Applications of Bayesian Nonparametrics to Reliability and Survival Data*. Defended April 2014.
5. Yuhui Chen, Assistant Professor, University of Alabama Dept. Mathematics. Dissertation title: *Bayesian Nonparametric Models and Tests for Association in Survival Data*. Defended October, 2012.

6. Luping Zhao, Biostatistician for Eli Lilly and Company (Primary advisor Tim Hanson, co-adviser Brad Carlin). Dissertation title: *Mixtures of Dependent Polya Trees in the Proportional Hazards Model*. Defended January, 2008.
7. Mingan Yang, Assistant Professor, Division of Epidemiology and Biostatistics at San Diego State University (Primary advisor Tim Hanson, co-adviser Ron Christensen). Dissertation title: *Applications of Mixtures of Polya Trees Priors to Survival Models*. Defended June, 2006.
8. Ling Xu, Associate Professor, Department of Mathematics and Statistics at James Madison University (Primary advisor Tim Hanson, co-adviser Ed Bedrick). Dissertation title: *Multimodality in Ecological Data*. Defended July, 2005.

Teaching

Courses taught

1. *Introduction to Experimental Design* (Spring, 2017). Undergraduate and masters-level introductory course on the planning and analysis of experiments and observational data. Randomization, two-sample designs, completely randomized designs, complete random blocks, factorial treatments, ANCOVA, repeated measures, mixed models, sample size & power, 2×2 tables, stratified 2×2 tables, odds ratio & relative risk, testing independence in $I \times J$ tables, logistic regression, survival analysis, Poisson regression, and diagnostic screening. Extensive examples and homeworks using R; hundreds of pages of typed notes.
2. *Time Series and Forecasting* (Fall, 2015). An advanced undergraduate and masters level introduction to ARIMA modeling, with extensive examples in R. Included seasonal models and automated model selection, model validation, and a thorough development of ARIMA models.
3. *Multivariate Analysis* (Fall, 2014). Multivariate graphical displays; multivariate normal theory including finite sample distributions of test statistics, estimation, likelihood ratio and union-intersection tests; regression and mixed models; MANOVA; principal components analysis; canonical correlation; multidimensional scaling; cluster analysis; discriminant analysis; factor analysis; spatial statistics.
4. *Longitudinal Data Analysis* (Spring, 2011). Describing and plotting longitudinal data; vectors and matrices; properties of the multivariate normal distribution; classical methods (split-plot and MANOVA formulations); general linear model: mean and covariance specification, fitting, and inference; random coefficient models; linear mixed models; generalized linear models and GEE approach to fitting population averaged models; generalized linear mixed models; missing data issues. All models illustrated using SAS procedures: glm, mixed, genmod, and glimmix.
5. *Elementary Statistics for the Biological and Life Sciences* (Fall 2010, Spring 2011, Fall 2011, Fall 2012, Spring 2014). Probability and statistics for students in the life sciences. Describing data; probability; distributions; random sample; sampling distributions; two-sample t procedures; one and two-sample proportion procedures; linear regression; 2×2 tables: odds, odds ratios, relative, risk, independence, difference in proportions, Simpson's paradox; logistic regression; diagnostic screening and ROC curves.
6. *Data Analysis I* (Fall 2010, 2011, 2012, 2014). Graduate level course in regression. Review of probability; one and two-sample problems; nonparametric tests; simple linear regression; multiple regression: diagnostics, model choice, influence, plots, interpretation, polynomial & interaction models, multicollinearity; robust regression; weighted least squares; quantile regression; logistic regression; Poisson regression; generalized additive models.
7. *Data Analysis II* (Spring 2013, 2014, 2015). Graduate level course in analysis of variance and experimental design. One-way ANOVA, nonparametric approaches,

transformations, model diagnostics, balanced and unbalanced multi-way ANOVA with interpretation, averaged treatment effects, interaction models, model building and selection, ANCOVA, randomized block designs, repeated measures on one factor (split-plots), repeated measures, longitudinal data, examples in SAS proc glm, proc mixed, and proc glimmix, categorical data analysis.

8. *Analysis of Categorical Data* (Spring 2007, 2008, 2009, 2010, 2017; Fall 2013, 2015). Covered: contingency tables: tests of independence, ordinal data, log-linear models; logistic regression: model and interpretation, diagnostics, generalizations for ordinal and nominal data; estimation and models for clustered data. Course materials include *Categorical Data Analysis* by Alan Agresti and typed online notes.
9. *Fundamentals of Biostatistics I* (Fall 2005, 2006, 2007, 2008). New, graduate level course for students outside of the Division of Biostatistics seeking a rigorous introduction to probability, statistics, and modeling. Covered: calculus and matrix review, probability, random variables, expectation, maximum likelihood estimation, hypothesis testing, two-sample problem, ANOVA, and brief introduction to simple linear and logistic regression. Course materials include *Mathematical Statistics and Data Analysis* by John A. Rice, typed online notes, and handouts. The text was changed Fall 2006 to more closely match the collective students' mathematical backgrounds.
10. *Survival Analysis and Generalized Linear Models* (Fall 2003, Spring 2002). Graduate level course primarily for statistics students. Covered: survival data, censoring and truncation, Kaplan-Meier estimation, proportional hazards, accelerated failure time models with diagnostics. Logistic, ordinal (proportional odds), and Poisson regression models, random effects, overdispersion. Course materials included *Survival Analysis* by Klein and Moeschberger, typed notes, and extensive typed examples in SAS.
11. *Introduction to Bayesian Modeling* (Fall 2004). Introductory course in Bayesian modeling aimed at graduate students in statistics and other disciplines with emphasis on real data and applications. Covered: probability review, Bayes theorem, Markov chain Monte Carlo, Gibbs sampling, Metropolis Hastings, Markov chains, WinBUGS, linear and nonlinear regression, data augmentation prior, Jeffreys' prior, power prior, hierarchical (random effect) models, Poisson and binomial regression, survival models. Course materials primarily consisted of typed notes augmented with selected chapters from *Bayesian Statistics, an Introduction* by Lee and the *WinBUGS 1.4 User Manual*.
12. *Probability Theory* (Fall 2002). Covered: sample spaces, probability, random variables, expectation, moment generating functions, central limit theorem, convergence in probability, convergence in distribution, almost sure convergence, Chebychev inequality, common distributions, transformations, random samples. Course materials included *A First Course in Probability* by Ross, and typed solutions to many problems.
13. *Statistical Inference* (Spring 2005). Graduate level course in statistical inference. Covered: random samples, point estimation, sufficiency, completeness, ancillary statistics, exponential families, Lehmann-Scheffe theorem, Cramer-Rao lower bound, unbiased estimation, maximum likelihood, method of moments, mean squared error, bias, efficiency, Rao-Blackwell, hypothesis testing and interval es-

timation, likelihood ratio test, Neyman-Pearson, pivotal statistics, etc. Course materials included *Statistical Inference* by Casella and Berger, typed handouts and problem solutions, and course notes.

14. *Advanced Data Analysis I* (Fall 2004). For graduate students in other departments. Covered: exploratory data analysis, sampling, t -tests, z -tests, two-sample problem, nonparametric tests, ANOVA, simple linear regression. Course materials included typed notes and Minitab examples.
15. *Advanced Data Analysis II* (Spring 2003). Covered: ANOVA, basic experimental design, logistic regression, principle components analysis, discriminant analysis, MANOVA, cluster analysis and classification. Course materials included typed notes and SAS examples.
16. *Biostatistical Methods I* (Fall 2002, Fall 2003). Introductory probability and statistics for Masters in Public Health students. Course taught with typed notes; computations in JMP-IN. Covered: summarizing data, probability, random variables, sampling distributions, one and two sample t -tests, tests of proportions, linear regression.
17. *Biostatistical Methods II* (Spring 2003). Continuation of *Biostatistics I* with computations in Stata. Covered: ANOVA and experimental design, repeated measures, ANCOVA, categorical data, logistic regression, survival analysis.
18. *Regression Analysis* (Fall 2000, Fall 2001). Covered: simple and multiple regression, diagnostics, matrix approach. Computations in Minitab with extensive typed handouts detailing Minitab implementation. Course text was *Applied Linear Statistical Models* by Neter, Kutner, Nachtsheim, and Wasserman.
19. *ANOVA and Experimental Design* (Spring 2001, Spring 2002). Covered: multiway ANOVA, multiple comparisons, randomized complete block, repeated measures, Latin squares, split plot, nested, and factorial treatment structure designs. Computations in Minitab with extensive typed examples. Course text was *Applied Linear Statistical Models* by Neter, Kutner, Nachtsheim, and Wasserman.
20. Other courses: *Introduction to Statistics (sophomore level)* (Fall 2001, Spring 2005), *Introduction to Statistics (freshman level)* ($\times 2$), *College Algebra* ($\times 1$), *Calculus II* ($\times 1$), *Elements of Calculus I* ($\times 1$), *Pre-calculus Mathematics* ($\times 1$).

Masters students advised

Student	Degree	Major	Year completed	Advising role
James Keaveny	M.A.S.	Statistics, USC	2015	Project advisor
Zantek, Paul	M.S.	Biostatistics, U of M	2011	Plan B advisor
Buhule, Olive	M.S.	Biostatistics, U of M	2010	Plan B advisor
Rapkin, Josh	M.S.	Biostatistics, U of M	2008	Plan B co-advisor
Pan, Zhenyu	M.S.	Biostatistics, U of M	2008	Plan B advisor
He, Wei	M.S.	Biostatistics, U of M	2008	Plan B advisor
Salkowski, Nicholas	M.S.	Biostatistics, U of M	2007	Plan B advisor
Gaussoin, Sarah	M.S.	Statistics, UNM	2003	Masters thesis advisor
Grüner, William	M.S.	Statistics, UNM	2003	Masters thesis advisor

Other student committee memberships

Student	Degree	Major	Year	Advising role
Han Lee	Ph.D.	Statistics, USC	2016	Dissertation Proposal/defense committee
Shamim Sarker	Ph.D.	Statistics, USC	2016	Dissertation Proposal/defense committee
Zizhen Wu	Ph.D.	Statistics, USC	2015/2016	Dissertation Proposal/defense committee
Bin Yao	Ph.D.	Statistics, USC	2015/2016	Dissertation Proposal/defense committee
Shun Yu	Ph.D.	Statistics, USC	2014/2015	Dissertation Proposal/defense committee
Kindo, Bereket	Ph.D.	Statistics, USC	2014/2016	Dissertation Proposal/defense committee
Wang, Naichen	Ph.D.	Statistics, USC	2013/2014	Diss Proposal/defense committee
Rahman, Fazlur	Ph.D.	Statistics, USC	2013/2014	Diss Proposal/defense committee
Chai, Chao	Ph.D.	Epi & Biostat, USC	2012/2013	Diss Proposal/defense committee
Barrientos, Andres Felipe	Ph.D.	Statistics, PUC Chile	2012	Dissertation defense committee
McMahan, Chris	Ph.D.	Statistics, USC	2011/2012	Diss proposal/defense committees
Wang, Songfeng	Ph.D.	Epi & Biostat, USC	2011/2012	Diss proposal/defense committees
Boyer, Tim	Ph.D.	Environmental Health Sciences, U of M	2012	Diss proposal/defense committees
Wu, Wensong	Ph.D.	Statistics, USC	2010	Dissertation proposal committee
Li, Pei	Ph.D.	Biostatistics, U of M	2009/2010	Dissertation proposal/defense committees
Hatfield, Laura	Ph.D.	Biostatistics, U of M	2010	Dissertation proposal committee
Goel, Varun	Ph.D.	Pharmacy, U of M	2009	Dissertation defense committee
Baron, Kyle	Ph.D.	Pharmacy, U of M	2009	Dissertation proposal committee
Brown, Jason	M.S.	Epidemiology, U of M	2009	Masters defense committee
Zhong, Wei	M.S.	Biostatistics, U of M	2009	Plan B committee
Zhu, Xiaochun	M.S.	Biostatistics, U of M	2009	Plan B committee
Ball, Stephanie	Ph.D.	Environmental Health Sciences, U of M	2008	Dissertation proposal committee
Trudell, Tim	M.S.	Statistics, U of M	2008	Masters defense committee
Yuan, Na	M.S.	Biostatistics, U of M	2007	Plan B committee
Xiong, Zang	M.S.	Biostatistics, U of M	2006	Plan B committee
Neath, Ronald	Ph.D.	Statistics, U of M	2006	Dissertation defense committee
Strandberg, Kristina	M.S.	Statistics, UNM	2004	Masters defense committee
Malloy, Elizabeth	Ph.D.	Statistics, UNM	2004	Dissertation defense committee
Liang, Hwa-Chi	Ph.D.	Statistics, UNM	2003	Dissertation defense committee
Gilbert, Steve	Ph.D.	Statistics, UNM	2003	Dissertation defense committee
Pan, Lin	M.S.	Statistics, UNM	2003	Masters defense committee
Crandall, Winston	Ph.D.	Statistics, UNM	2002	Dissertation defense committee
Ring, Laura	Ph.D.	Statistics, UNM	2002	Dissertation defense committee
Stady, Kelly	M.S.	Statistics, UNM	2002	Masters defense committee
McMillan, Garnett	M.S.	Statistics, UNM	2001	Masters defense committee
Liu, Wei	M.S.	Statistics, UNM	2001	Masters defense committee

Service

Editorial appointments

Associate Editor for *Biometrics*, June 2013 – January 2016.

Associate Editor for *Lifetime Data Analysis*, September 2010 – September 2015.

Associate Editor for *Bayesian Analysis*, September 2008 – September 2010.

Associate Editor for the *Journal of Computational and Graphical Statistics*, March 2003 – March 2005.

Manuscript referee

Reviewed over 150 manuscripts for journals including *The American Statistician*; *Annals of Applied Statistics*; *Annals of Statistics*; *Applied Stochastic Models in Business and Industry*; *Asia Pacific Education Review*; *Australian and New Zealand Journal of Statistics*; *Bayesian Analysis* (> 10); *Biometrical Journal*; *Biometrics* (> 10); *Biometrika*; *Biostatistics*; *BMC Medical Research Methods*; *Canadian Journal of Statistics*; *Circulation*; *Colombian Journal of Statistics*; *Communications in Statistics*; *Computational Statistics and Data Analysis*; *Electronic Journal of Statistics*; *Equine Veterinary Journal*; *Health Physics*; *IISE Transactions*; *International Journal of Environmental Research and Public Health*; *International Journal of Health Geographics*; *International Statistical Review*; *Journal of Agricultural, Biological, and Environmental Statistics*; *Journal of the American Statistical Association* (> 10); *Journal of Computational and Graphical Statistics* (> 10); *Journal of Dairy Science*; *Journal of the Royal Statistical Society, Series A*; *Journal of the Royal Statistical Society, Series B*; *Journal of the Royal Statistical Society, Series C*; *Journal of Statistical Computation and Simulation*; *Journal of Statistical Planning and Inference*; *Journal of Statistical Software*; *Journal of Studies on Alcohol*; *Journal of Testing and Evaluation*; *Journal of Veterinary Pathology*; *Lifetime Data Analysis*; *Metron*; *Molecular Genetics and Genomics*; *PLOS One*; *Preventive Veterinary Medicine*; *Scandinavian Journal of Statistics*; *Statistica Sinica*; *Statistical Methodology*; *Statistical Methods in Medical Research*; *Statistical Modelling*; *Statistics and Computing*; *Statistics and Its Interface*; *Statistics in Medicine* (> 10); *Statistical Papers*; *Transportation Research, Part B*.

Professional consulting

Consulted for Julio Arroyo M.D., Hope Health Ryan White Clinic correlating shingles to various risk factors in HIV+ patients. 2017.

Consulted for Dr. Amy Flynt, Director, Biostatistics at PharPoint Research, Inc. on use of Bayesian methods in clinical trials incorporating historical controls. 2015.

Consulted for John Fowler, M.D. on use of latent class analysis to assess sensitivity and specificity of three imperfect diagnostic tests for carpal tunnel syndrome. 2014–2015.

Consulted for Roland Knapp, Ph.D. on spatial demise of Mountain Yellow Legged Frog in Sequoia Kings Park. 2013–2015.

National Center for Rehabilitative Auditory Research (nonprofit in Portland), ongoing 2009–current. Worked on implementation of advanced regression methods for circular and other types of data.

Institute for Clinical and Systems Improvement, March through May 2007. Worked on control charts and determining statistical significance for determining whether safety interventions improved adverse event rates.

Behavioral Health Research Center of the Southwest (nonprofit in Albuquerque), 2003–2006. Worked with Garnett McMillan on analyzing drug & alcohol use data.

Sandia National Laboratories, January through April, 2004. Worked with I. Chang on reliability study of parallel aircraft components.

Sandia National Laboratories, June and July 2003. Worked with I. Chang on implementation of Bayesian methods to model resistance of electrical components under a variety of operating conditions using nonlinear mixed models for longitudinal data.

Lovelace Hospital Respiratory Toxicology Lab, October 2000 - March 2001. Worked with Dr. Robert Scott and Dr. Helmut Schöllnberger on the implementation of a Bayesian nonlinear Poisson regression model for neoplastic transformation of cells subjected to low doses of radiation.

U.C. Davis Equestrian Center, March and April 1999. Worked with Dr. Monica Aleman on developing small-sample mixed-effects models for charting the growth curves of sonographic measurements of internal organs for healthy foals.

University, divisional, and departmental committees

Magellan Scholar Proposal review committee Fall 2014, Fall 2015, Spring 2016, Fall 2016.

Graduate Director for USC Department of Statistics, January 2013–June 2016.

Various USC Stat hiring committees.

Member of the ASPIRE-I grant proposal review committee 2012 (University-wide).

Member of USC Stat Ph.D. Exam Committee 2010–current.

USC Stat 205 coordinator 2010–2013.

Member of USC Stat Graduate/Admissions Committee 2010–2011, 2012–current.

Member of USC Stat Stat 535 (Introduction to Bayesian Modeling) course development committee.

Member of *Grant-in-Aid of Research, Artistry and Scholarship Program* committee to review Grant-in-Aid proposals twice yearly 2006–2009 (University-wide).

U. Minn. Div. of Biostatistics Admissions Committee 2008–2010.

U. Minn. Div. of Biostatistics Exam Committee 2005–present, Chair 2009–2010.

U. Minn. Div. of Biostatistics Recruiting Committee 2005–2008, Chair 2006–2008.
U. New Mexico Dept. Math. and Statistics Graduate Committee 2001–2003.
U. New Mexico Dept. Math. and Statistics Computing Committee 2004–2005.
U. New Mexico Dept. Math. and Statistics Exam Committee 2001–2005.

Misc. organizational information

Coordinated and chaired invited session on ROC curves and diagnostic screening at the Latent Variables Conference at the U. South Carolina October 2016.

ISBA committee for Mitchell Prize for outstanding applied paper 2015.

ISBA committee for L.J. Savage Award for best Bayesian Dissertation 2014, 2016.

Co-Program Chair, 2014 SRC 50th Anniversary Meeting in Galveston, TX.

Member: American Statistical Association, Institute for Mathematical Statistics, and International Biometric Society 1999–present.

Coordinated and chaired an invited session on diagnostic screening at the 2001 WNAR Biometric Society meeting in Burnaby, British Columbia. Coordinated and chaired an invited session for J.S.M. 2006 titled “New Directions in Bayesian Joint Modeling of Survival and Longitudinal Data.”

May 19, 2017