James G. Scott

University of Texas at Austin
2110 Speedway
Stop B6500
Austin, TX 78712

Office: (512) 471-5905
Fax: (512) 471-0587
james.scott@mccombs.utexas.edu
http://jgscott.github.com

Academic appointments

University of Texas at Austin
Assistant Professor of Statistics, July 2009 – present

Jointly with:
Department of Information, Risk, and Operations Management (McCombs School)
Division of Statistics and Scientific Computation (College of Natural Sciences)

Education

Duke University
Ph.D. in Statistics, 2006–09
Thesis: Bayesian Adjustment for Multiplicity
Advisor: James O. Berger

University of Cambridge (Trinity College)
M.A.St in Mathematics (Part III), 2004–05
Undertaken while holding a Marshall Scholarship

University of Texas at Austin
B.S. in Mathematics and Plan II Honors, 2000–2004

Papers under peer review

Expectation-maximization for logistic models (with L. Sun).

No control genes required: Bayesian analysis of qRT-PCR data. (with M.V. Matz and R.G. Wright).

Nonparametric Bayesian testing for monotonicity (with T. Shively and S. Walker). arXiv:1109.2279v1 [stat.ME] (2013).

Bayesian inference for logistic models using Polya-Gamma latent variables (with N.G. Polson and J. Windle). arXiv:1205.0310 [stat.ME]. Revisions requested from the *Journal of the American Statistical Association.*

The Bayesian bridge (with N.G. Polson and J. Windle). arXiv:1109.2279v1 [stat.ME] (2012). Revisions requested from the *Journal of the Royal Statistical Society, Series B: Statistical Methodology.*

Conference papers

A recursive estimate for the predictive likelihood in a topic model (with J. Baldridge). Proceedings of the 16th International Conference on Artificial Intelligence and Statistics (AISTATS) 31 (2013).

Fully Bayesian inference for neural models with negative-binomial spiking (with J. Pillow). *Advances in Neural Information Processing Systems* (NIPS) 25 (2012).

Shrink globally, act locally: sparse Bayesian regularization and prediction (with N.G. Polson). *Bayesian Statistics 9: Proceedings of the Ninth Valencia International Meeting.* Oxford University Press (2011).

Handling sparsity via the horseshoe (with C.M. Carvalho and N.G. Polson). *Journal of Machine Learning Research*, W&CP (AIStats), 5: 73–80 (2009).

White dwarfs in open clusters: calibrating the clock (with T. von Hippel, W. Jefferys, and D. Winget). 14th European Workshop on White Dwarfs, ASP Conference Series, Vol. 334, p.77–80. Edited by D. Koester and S. Moehler. San Francisco: Astronomical Society of the Pacific (2005)

Journal articles

Sparse Bayes estimation in non-Gaussian models via data augmentation (with N.G. Polson). arXiv: 1103.5407v2 [stat.ME]. *Biometrika* 100(2): 549-71 (2013)

On the half-Cauchy prior for a global scale parameter (with N.G. Polson). *Bayesian Analysis* 7(4): 7, 887–902 (2012).

A sparse factor-analytic probit model for Congressional voting patterns (with P.R. Hahn and C.M. Carvalho). *Journal of the Royal Statistical Society, Series C: Applied Statistics.* 61(4): 619–35 (2012).

Good, great, or lucky? Screening for firms with sustained superior performance using heavy-tailed priors (with N.G. Polson). *Annals of Applied Statistics.* 6(1): 161–85 (2012).

Benchmarking historical corporate performance. *Computational Statistics and Data Analysis.* 56(6): 1795–1807 (2012).

Local shrinkage rules, Lévy processes, and regularized regression. (with N.G. Polson). *Journal of the Royal Statistical Society, Series B: Statistical Methodology* 74(2): 287–311 (2012).

Bayesian estimation of intensity surfaces on the sphere via needlet shrinkage and selection. *Bayesian Analysis.* 6(2): 307–28 (2011).

The horseshoe estimator for sparse signals (with C.M. Carvalho and N.G. Polson). *Biometrika* 97(2): 465–80 (2010).

Bayes and empirical-Bayes multiplicity adjustment in the variable-selection problem (with J.O. Berger). *The Annals of Statistics* 38(5): 2587–2619 (2010).

Nonparametric Bayesian multiple testing for longitudinal performance stratification. *The Annals of Applied Statistics* 3(4): 1655–74 (2009).

Objective Bayesian model selection in Gaussian graphical models (with C.M. Carvalho). *Biometrika* 96(3): 497–512 (2009).

Feature-inclusion stochastic search for Gaussian graphical models (with C.M. Carvalho). *Journal of Computational and Graphical Statistics* 17.4: 790–808 (2008).

An exploration of aspects of Bayesian multiple testing (with J.O. Berger). *Journal of Statistical Planning and Inference* 136.7: 2144–62 (2006).

Inverting color-magnitude diagrams to access precise star cluster parameters: a Bayesian approach (with T. von Hippel, W. Jefferys, N. Stein, D. Winget, S. DeGennaro, A. Dam, and E. Jeffery). *The Astrophysical Journal* 645.2: 1436–47 (2006).

Book chapters

The partition problem: case studies in Bayesian screening for time-varying model structure (with Z. Liu and J. Windle). arXiv:1111.0617v1 [stat.AP]. To appear in *Bayesian Theory and Applications: Essays in Honor of Adrian Smith*. Oxford University Press (2012).

Bayesian computation and the linear model (with M.J. Heaton). *Frontiers of Statistical Decision Making and Bayesian Analysis*. Edited by Ming-Hui Chen, Dipak Dey, Peter Mueller, Dongchu Sun, and Keying Ye. Springer (2010).

Bayesian forecasting, futures markets, and risk modelling (with J.M. Quintana, C.M. Carvalho, and T. Costigliola). *Handbook of Applied Bayesian Analysis*. Edited by Anthony O'Hagan and Mike West. Oxford University Press (2010).

External funding

[PI] "CAREER: Bringing richly structured Bayesian models into the discrete-data realm via new data-augmentation theory and algorithms." National Science Foundation (DMS), July 2013 – June 2018 ($400,000 total).

[Co-PI] "Augmentation and Use of BioSense 2.0 for Early Detection and Surveillance of Emerging Infectious Diseases and Biological Threats," with PI Lauren Meyers. Contract with Texas Department of State Health Services, Sept 2012 – Aug 2013 ($143,785 total).

[Co-PI] "Decision-Support Tool for Pandemic Flu Vaccination Strategies and Priorities," with PIs Lauren Meyers and David Morton and co-PI Gregory Johnson. Contract with Texas Department of State Health Services, Sept 2012 – Aug 2013 ($198,103 total).

Invited talks

9th Conference on Nonparametric Bayes; Amsterdam, Netherlands; June 2013

Texas A&M Department of Statistics, January 2013

Booth School of Business, University of Chicago; February 2013

Joint Statistical Meetings; San Diego, CA; July 2012

ISBA 2012 World Meeting; Kyoto, Japan; July 2012

Duke University Department of Statistical Science; January 2012

Workshop on Sensing and High-dimensional Data Analysis; Durham, NC; July 2011

Objective Bayes '11; Shanghai, China; June 2011

Hierachical Models and MCMC: A Conference in Honor of Adrian Smith; Crete, Greece; June 2011

Booth School of Business, University of Chicago; March 2011

Frontiers of Statistical Decision Making and Bayesian Analysis (Conference in honor of

Jim Berger); University of Texas at San Antonio; March 2011

Conference of Texas Statisticians, Baylor University; April 2010

Texas A&M Department of Statistics; January 2010

University of Cambridge Statistical Laboratory; Cambridge, UK; March 2009

Sloan School of Management, Massachusetts Institute of Technology, February 2009

Rice University Department of Statistics; February 2009

University of Michigan Department of Statistics; February 2009

University of California, Berkeley Department of Statistics; January 2009

McCombs School of Business, University of Texas at Austin; January 2009

Booth School of Business, University of Chicago; January 2009

Wharton School of Business, University of Pennsylvania; January 2009

Virginia Tech Department of Statistics; December 2008

Courses taught

STA 371: a course for undergraduate business majors on statistical modeling, regression, time series, and decision theory. Spring '10; Spring '11, Spring '12.

SSC 325H: a course on probability and statistical modeling for honors undergraduates in all disciplines. Spring '12.

NSC 110: a seminar on research methods for freshmen honors students in natural sciences. I taught this course on an off-load, volunteer basis. Fall '10; Fall '11; Fall '12.

Statistical Modeling: A Gentle Introduction. A free 175-page textbook made available to all statistics instructors at UT.

Supervision of students

Ph.D theses: Liang Sun (2015 expected); Jesse Windle (2013 expected).

Masters theses: Richard Lakin (2012); Stephen Martin (2012).

Undergraduate theses: Brian Banks (2012); Surveen Singh (2012); Zesong Liu (2011).

Fellowships and awards

NSF CAREER Award (2013).

Trammell/CBA Foundation Teaching Award for Assistant Professors (2013).

Teaching Excellence Award in the College of Natural Sciences (2012).

University of Texas Junior Fellow in British Studies (2011)

Savage Award (2010): one award is given each year by the International Society of Bayesian Analysis for a doctoral dissertation that makes important original contributions to the foundations, theoretical developments, and/or general methodology of Bayesian analysis.

National Science Foundation Graduate Research Fellowship, 2006–2009

Marshall Scholarship, 2004–2006

University service: ongoing

Assistant Director of Undergraduate Studies, Division of Statistics and Scientific Computing, 2012–present.

University Selection Committee for Rhodes and Marshall Scholarships, 2009–present

Steering Committee for the Dean's Scholars Honors Program in the Natural Sciences, 2009–present

University service: completed

Board of Directors, Texas Exes Scholarship Foundation, 2009–2013. The board oversees all scholarship programs run by the university's alumni association, including investments, fund-raising, and selection of scholarship recipients. We disbursed over $2.1 million in scholarships to UT students in 2012.

Selection Committee for the UT Forty Acres Scholarship, 2010–12

Mathematics Undergraduate Program Review Committee, 2011–2012. I served as the McCombs representative to a committee whose goal is to review the undergraduate mathematics curriculum, particularly the calculus sequence, for all non-mathematics majors at UT–Austin.

Undergraduate Curriculum Committee for the Division of Statistics and Scientific Computing, 2011–2012. Oversaw development of an undergraduate Certificate in Applied Data Analysis.

Ph.D Curriculum Planning Committee, Division of Statistics and Scientific Computation, 2010–11

Professional service

Associate Editor for *The Annals of Applied Statistics* (2011–)

Referee for: *Journal of the Royal Statistical Society; Journal of the American Statistical Association; Biometrika; Journal of Econometrics; Annals of Applied Statistics; Biometrics; Bayesian Analysis; Journal of Business and Economic Statistics; Journal of the Indian Statistical Association; The Scandinavian Journal of Statistics; Computational Statistics and Data Analysis; Communications in Statistics; Transportation Research; The Astrophysical Journal.*

Reviewing committee for: AIStats ('12, '10), NIPS ('12, '10), 2010 Seminar on Bayesian Inference in Econometrics and Statistics (SBIES)

Session organizer for: 2013 JSM; 2010 SBIES

Industry

Deloitte Consulting (San Francisco, CA)

April 2007 – October 2010: statistical consulting on issues relating to longitudinal stratification and testing of historical corporate performance

Bayesian Efficient Strategic Training (Hoboken, NJ)
July 2007 – August 2007: statistical consulting on issues relating to nonlinear regression and graphical models in portfolio-allocation problems