

## CURRICULUM VITAE for S.G.Walker

### EDUCATION

**Sep 1976–Nov 1983.** Sutton Manor High School, Sutton, Surrey.

**Oct 1984–Jun 1987.** Oriel College, Oxford University  
(awarded Open Exhibition on entry to Oriel College).

**Oct 1992–Sep 1995.** Imperial College, London.

### QUALIFICATIONS

**Degree (1987)** BA (Hons.) First class in Mathematics.

**Higher Degree (1995)** PhD Statistics: ‘Bayesian parametric and nonparametric methods with applications in medical statistics’, supervised by Jon Wakefield.

### WORK

**Oct 1987–Dec 1988** Bacon and Woodrow.

**Jan 1989–Jun 1990** Citicorp.

**Sep 1990–Aug 1992** Mosoch, Kenya.

**Oct 1995–April 2000** Research Associate (Funded by EPSRC ROPA);  
Lecturer; Reader. Department of Mathematics, Imperial College, London.

**April 2000–Sep 2004** Professor of Statistics. Department of Mathematical Sciences, University of Bath.

**Oct 2004– Aug 2013** Professor of Statistics. Institute of Mathematics, Statistics and Actuarial Science, University of Kent.

**Sept 2013–present** Professor, Department of Mathematics and Department of Statistics & Data Science, University of Texas at Austin.

### PUBLICATIONS

1. Walker, S.G. (1995). Generating random variates from D-distributions via substitution sampling. *Statistics and Computing* **5**, 311–315.

2. Walker, S.G. and Wakefield, J.C. (1996). Bayesian semiparametric approaches to the population modelling of a monotonic dose response curve. In *Bayesian Statistics 5*, pp.783–790 (eds, J.M.Bernado et al.) Oxford University Press.
3. Walker, S.G. (1996). A Bayesian maximum a posteriori algorithm for categorical data under informative general censoring. *The Statistician* **45**, 293–298.
4. Walker, S.G. (1996). An EM algorithm for nonlinear random effects models. *Biometrics* **52**, 934–944.
5. Walker, S.G. and Muliere, P. (1996). A Bayesian nonparametric estimator based on left censored data. *Journal of the Italian Statistical Society* **5**, 285–295.
6. Walker, S.G. and Muliere, P. (1997). A characterisation of Pólya tree distributions. *Statistics and Probability Letters* **31**, 163–168.
7. Wakefield, J.C. and Walker, S.G. (1997). A population approach to initial dose selection. *Statistics in Medicine* **16**, 1135–1149.
8. Muliere, P. and Walker, S.G. (1997). A Bayesian nonparametric approach to determining a maximum tolerated dose. *Journal of Statistical Planning and Inference* **61**, 339–353.
9. Muliere, P. and Walker, S.G. (1997). A Bayesian nonparametric approach to survival analysis using Pólya trees. *Scandinavian Journal of Statistics* **24**, 331–340.
10. Walker, S.G. and Mallick, B.K. (1997). Hierarchical generalised linear models and frailty models with Bayesian nonparametric mixing. *Journal of the Royal Statistical Society, Series B* **59**, 845–860.
11. Walker, S.G. and Muliere, P. (1997). Beta-Stacy processes and a generalisation of the Pólya-urn scheme. *Annals of Statistics* **25**, 1762–1780.
12. Mallick, B.K. and Walker, S.G. (1997). Combining information from several experiments with nonparametric priors. *Biometrika* **84**, 697–706.
13. Walker, S.G. and Mallick, B.K. (1997). A note on the scale parameter of the Dirichlet process. *The Canadian Journal of Statistics* **25**, 473–479.

14. Wakefield, J.C. and Walker, S.G. (1997). Bayesian nonparametric population models: formulation and comparison with likelihood approaches. *Journal of Pharmacokinetics and Biopharmaceutics* **25**, 235–253.
15. Muliere, P. and Walker, S.G. (1998). Extending the family of Bayesian bootstraps and exchangeable urn schemes. *Journal of the Royal Statistical Society, Series B* **60**, 175–182.
16. Walker, S.G. (1998). A characterisation of Hjort’s discrete time beta process. *Statistics and Probability Letters* **37**, 351–355.
17. Walker, S.G. and Damien, P. (1998). Sampling methods for Bayesian nonparametric inference involving stochastic processes. In *Practical Nonparametric and Semiparametric Bayesian Statistics*. Eds., D.Dey, P.Müller and D.Sinha. pp. 243–254. Lecture Notes in Statistics, Springer.
18. Walker, S.G. (1998). A nonparametric approach to a survival study with surrogate endpoints. *Biometrics* **54**, 662–672.
19. Walker, S.G. and Wakefield, J.C. (1998). Population models with a nonparametric random coefficient distribution. *Sankhya, Series B* **60**, 196–214.
20. Walker, S.G. and Damien, P. (1998). A full Bayesian nonparametric analysis involving a neutral to the right process. *Scandinavian Journal of Statistics* **25**, 669–680.
21. Damien, P., Wakefield, J.C. and Walker, S.G. (1999). Gibbs sampling for Bayesian nonconjugate and hierarchical models using auxiliary variables. *Journal of the Royal Statistical Society, Series B* **61**, 331–344.
22. Walker, S.G. and Damien, P. (1999). A note on Ramaswamy et al.’s latent joint segmentation model. *Journal of Marketing Research* **36**, 112–114.
23. Walker, S.G. (1999). The uniform power distribution. *Journal of Applied Statistics* **26**, 508–517.
24. Walker, S.G., Damien, P., Laud, P.W. and Smith, A.F.M. (1999). Bayesian nonparametric inference for random distributions and related functions (with discussion). *Journal of the Royal Statistical Society, Series B* **61**, 485–527.

25. Walker, S.G. and Gutiérrez-Peña, E. (1999). Robustifying Bayesian procedures (with discussion). In *Bayesian Statistics 6*. J.M.Bernardo, J.O. Berger, A.P.Dawid, A.F.M.Smith (Eds.) pp. 685–710. Oxford University Press.
26. Walker, S.G. and Mallick, B.K. (1999). A Bayesian accelerated failure time model. *Biometrics* **55**, 477–483.
27. Damien, P. and Walker, S.G. (1999). A full Bayesian analysis of circular data using von Mises distribution. *The Canadian Journal of Statistics* **27**, 291–298.
28. Walker, S.G. and Stephens, D.A. (1999). A multivariate family of distributions on  $(0, \infty)^p$ . *Biometrika* **86**, 703–709.
29. Walker, S.G. and Muliere, P. (1999). A characterisation of a neutral to the right prior via an extension of Johnson’s sufficientness postulate. *Annals of Statistics* **27**, 589–599.
30. Walker, S.G. and Damien, P. (1999). Characterisations, stochastic equations and the Gibbs sampler. *Journal of Applied Probability* **36**, 747–751.
31. Walker, S.G. (2000). A note on the innovation distribution of a gamma distributed autoregressive process. *Scandinavian Journal of Statistics* **27**, 575–576.
32. Walker, S.G. and Damien, P. (2000). Representations of Lévy processes without Gaussian components. *Biometrika* **87**, 477–483.
33. Claxton, K., Lacey, L.F. and Walker, S.G. (2000). Selecting treatments: a decision theoretic approach. *Journal of the Royal Statistical Society, Series A* **163**, 211–225.
34. Muliere, P., Secchi, P. and Walker, S.G. (2000). Urn schemes and reinforced random walks. *Stochastic Processes and their Applications* **88**, 59–78.
35. Muliere, P. and Walker, S.G. (2000). Neutral to the right processes from a predictive perspective: a review and new developments. *Metron* **58**, 13–30.
36. Walker, S.G., Gutiérrez-Peña, E. and Muliere, P. (2001). A decision-theoretic approach to model averaging. *Journal of the Royal Statistical*

*Society, Series D* **50**, 31-39.

37. Gutiérrez-Peña, E. and Walker, S.G. (2001). A Bayesian predictive approach to model selection. *Journal of Statistical Planning and Inference* **93**, 259–276.
38. Damien, P. and Walker, S.G. (2001). Sampling truncated normal, beta and gamma densities. *Journal of Computational and Graphical Statistics* **10**, 206–215.
39. Walker, S.G. and Page, C.J. (2001). Generalised ridge regression and a generalisation of the  $C_p$  statistic. *Journal of Applied Statistics* **28**, 911–922.
40. Hjort, N.L. and Walker, S.G. (2001). A note on kernel density estimators with optimal bandwidths. *Statistics and Probability Letters* **54**, 153–159.
41. Adham, S.A. and Walker, S.G. (2001). A multivariate Gompertz-type distribution. *Journal of Applied Statistics* **28**, 1051–1065.
42. Lux, A., Walker, S.G., O’Callaghan, F.J.K. and Greeley, C.S. (2001). Shaken baby syndrome. *The Lancet* (Correspondence Section) **357**, 1201–1210.
43. Walker, S.G. and Hjort, N.L. (2001). On Bayesian consistency. *Journal of the Royal Statistical Society, Series B* **63**, 811–821.
44. Damien, P. and Walker, S.G. (2002). A Bayesian nonparametric comparison of two treatments. *Scandinavian Journal of Statistics* **29**, 51–56.
45. Guglielmi, A., Holmes, C.C. and Walker, S.G. (2002). Perfect simulation involving functionals of a Dirichlet process. *Journal of Computational and Graphical Statistics* **11**, 306–310.
46. Nieto-Barajas, L.E. and Walker, S.G. (2002). Markov beta and gamma processes for modelling hazard rates. *Scandinavian Journal of Statistics* **29**, 413–424.
47. Pilling, G.M., Kirkwood, G.P. and Walker, S.G. (2002). An improved method for estimating individual growth variability in fish, and the correlation between von Bertalanffy growth parameters. *Canadian Journal of Fisheries and Aquatic Sciences* **59**, 424–432.

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49. Walker, S.G. (2002). Bayesian nonparametric and parametric inference. *Journal of the Iranian Statistical Society* **1**, 143–163.
50. Muliere, P., Secchi, P. and Walker, S.G. (2003). Reinforced random processes in continuous time. *Stochastic Processes and their Applications* **104**, 117–130.
51. Mallick, B.K. and Walker, S.G. (2003). A Bayesian semiparametric transformation model incorporating frailties. *Journal of Statistical Planning and Inference* **112**, 159–174.
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57. Walker, S.G. (2003). On recent Cheeger type bounds for non-maximal eigenvalues applied to positive matrices. *SIAM Journal on Matrix Analysis and Applications* **25**, 574–581.
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59. Choy, S.T.B. and Walker, S.G. (2003). The extended exponential power distribution and Bayesian robustness. *Statistics and Probability Letters* **65**, 227–232.
60. Walker, S.G. (2003). Bayesian consistency for a class of regression problems. *South African Statistical Journal* **37**, 149–167.

61. Lijoi, A., Prünster, I. and Walker, S.G. (2004). Extending Doob's consistency theorem to nonparametric densities. *Bernoulli* **10**, 651–663.
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63. Walker, S.G., Damien, P. and Lenk, P.J. (2004). On priors with a Kullback-Leibler property. *Journal of the American Statistical Association* **99**, 404–408.
64. Walker, S.G. (2004). Modern Bayesian asymptotics. *Statistical Science* **19**, 111–117.
65. Walker, S.G. (2004). Hellinger consistency for a discrete prior. *Pakistan Journal of Statistics* **20**, 321–327.
66. Nieto-Barajas, L.E. and Walker, S.G. (2004). Bayesian nonparametric survival analysis via Lévy driven Markov processes. *Statistica Sinica* **14**, 1127–1146.
67. Walker, S.G. (2004). New approaches to Bayesian consistency. *Annals of Statistics* **32**, 2028–2043.
68. Nieto-Barajas, L.E., Prünster, I. and Walker, S.G. (2004). Normalised random measures driven by increasing additive processes. *Annals of Statistics* **32**, 2343–2360.
69. Walker, S.G. (2005). Improving bounds for nonmaximal eigenvalues of nonnegative matrices. *Linear Algebra and its Applications* **397**, 133–139.
70. Muliere, P., Secchi, P. and Walker, S.G. (2005). Partially exchangeable processes indexed by vertices of a k-tree constructed via reinforcement. *Stochastic Processes and their Applications* **115**, 661–677.
71. Pitt, M.K. and Walker, S.G. (2005). Constructing stationary time series models using auxiliary variables with applications. *Journal of the American Statistical Association* **100**, 554–564.
72. Walker, S.G. (2005). A note on Bayes factors. *Australian and New Zealand Journal of Statistics* **47**, 325–328.
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74. Lijoi, A., Prünster, I. and Walker, S.G. (2005). On consistency of non-parametric normal mixtures for Bayesian density estimation. *Journal of the American Statistical Association* **100**, 1292–1296.
75. Walker, S.G., Lijoi, A., Prünster, I. (2005). Data tracking and the understanding of Bayesian consistency. *Biometrika* **92**, 765–778.
76. Walker, S.G. (2005). Bayesian Nonparametric Inference. *Handbook of Statistics, Volume 25*. Chapter 12. Elsevier B.V.
77. Nieto-Barajas, L.E. and Walker, S.G. (2005). A semi-parametric Bayesian analysis of survival data based on Lévy-driven processes. *Lifetime Data Analysis* **11**, 529–544.
78. Gutiérrez-Peña, E. and Walker, S.G. (2005). Statistical decision problems and Bayesian nonparametric methods. *International Statistical Review* **73**, 309–330.
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81. Pitt, M.K. and Walker, S.G. (2006). Extended constructions of stationary autoregressive processes. *Statistics and Probability Letters* **76**, 1219–1224.
82. Kume, A. and Walker, S.G. (2006). Sampling from compositional and directional distributions. *Statistics and Computing* **16**, 261–265.
83. Walker, S.G., Contreras-Cristà, A. and Gutiérrez-Peña, E. (2006). A note on Whittle’s likelihood. *Communications in Statistics* **35**, 857–875.
84. Karabatsos, G. and Walker, S.G. (2006). Normalised maximum likelihood and Bayesian decision theory. *Journal of Mathematical Psychology* **50**, 517–520.
85. Walker, S.G. (2007). Sampling the Dirichlet mixture model with slices. *Communications in Statistics* **36**, 45–54.



86. Walker, S.G., Hatjispyros, S.J. and Nicolieris, T. (2007). A Fleming-Viot process and Bayesian nonparametrics. *Annals of Applied Probability* **17**, 67–80.
87. Walker, S.G. and Gutiérrez-Peña, E. (2007). Bayesian parametric inference in a nonparametric framework. *TEST* **16**, 188–197.
88. Walker, S.G., Lijoi, A. and Prünster, I. (2007). On rates of convergence for posterior distributions in infinite dimensional models. *Annals of Statistics* **35**, 738–746.
89. Mena, R.H. and Walker, S.G. (2007). On the stationary version of the generalized hyperbolic ARCH model. *Annals of the Institute of Statistical Mathematics* **59**, 325–348.
90. Bulla, P., Muliere, P. and Walker, S.G. (2007). Bayesian nonparametric estimation of a bivariate survival function. *Statistica Sinica* **17**, 427–444.
91. Shaddick, G., Choo, L.L. and Walker, S.G. (2007). Modeling correlated count data with covariates. *Journal of Statistical Computation and Simulation* **77**, 945–954.
92. Lijoi, A., Prünster, I. and Walker, S.G. (2007). Bayesian consistency for stationary models. *Econometric Theory* **23**, 749–759
93. Walker, S.G. (2007). Bayesian inference via a minimisation rule. *Sankhya* **68**, 542–553.
94. Karabatsos, G. and Walker, S.G. (2007). Bayesian nonparametric inference of stochastically ordered distributions, with Pólya trees and Bernstein polynomials. *Statistics and Probability Letters* **77**, 907–913.
95. Nieto-Barajas, L.E. and Walker, S.G. (2007). A Bayesian nonparametric bivariate failure time model. *Computational Statistics and Data Analysis* **51**, 6102–6113.
96. Hatjispyros, S.J., Nicolieris, T. and Walker, S.G. (2007). Parameter estimation for random dynamical systems using slice sampling. *Physica A* **381**, 71–81.
97. Mena, R.H. and Walker, S.G. (2007). Stationary mixture transition distribution (MTD) models via predictive distributions. *Journal of Statistical Planning and Inference* **137**, 3103–3112.

98. Lijoi, A., Prünster, I. and Walker, S.G. (2007). On convergence rates for nonparametric distributions. *Australian and New Zealand Journal of Statistics* **49**, 209–219.
99. Nieto-Barajas, L.E. and Walker, S.G. (2007). Gibbs and autoregressive processes. *Statistics and Probability Letters* **77**, 1479–1485.
100. Choo, L.L. and Walker, S.G. (2008). A new approach to investigating spatial variations of disease. *Journal of the Royal Statistical Society, Series A* **171**, 395–405.
101. Hatjispyros, S.J., Nicolieris, T. and Walker, S.G. (2008). Bivariate prior distributions via branching exchangeable sequences. *Journal of Statistical Planning and Inference* **138**, 1799–1816.
102. Lijoi, A., Prünster, I. and Walker, S.G. (2008). Investigating nonparametric priors with Gibbs structure. *Statistica Sinica* **18**, 1653–1668.
103. Lijoi, A., Prünster, I. and Walker, S.G. (2008). Bayesian nonparametric estimators derived from conditional Gibbs structures. *Annals of Applied Probability* **18**, 1519–1547.
104. Walker, S.G. and Van Mieghem, P.F.A. (2008). On lower bounds for the largest eigenvalue of a symmetric matrix. *Linear Algebra and its Applications* **429**, 519–526.
105. Walker, S.G. (2008). “Bayesian nonparametrics.” In *The New Palgrave Dictionary of Economics*. Second Edition. Eds. Steven N. Durlauf and Lawrence E. Blume. Palgrave Macmillan.
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107. Lijoi, A., Prünster, I., and Walker, S.G. (2008). Posterior analysis for some classes of nonparametric models. *Journal of Nonparametric Statistics* **20**, 447–457.
108. Shively, T.S., Sager, T.W. and Walker, S.G. (2009). A Bayesian approach to nonparametric monotone function estimation. *Journal of the Royal Statistical Society, Series B* **71**, 159–175.
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111. Contreras-Cristán, A., Mena, R.H. and Walker, S.G. (2009). On the construction of stationary AR(1) models via random distributions. *Statistics* **43**, 227–240.
112. Kume, A. and Walker, S.G. (2009). On the Fisher–Bingham distribution. *Statistics and Computing* **19**, 167–172.
113. Ruggiero, M. and Walker, S.G. (2009). Bayesian nonparametric construction of the Fleming–Viot process with fertility selection. *Statistica Sinica* **19**, 707–720.
114. Karabatsos, G. and Walker, S.G. (2009). A Bayesian nonparametric approach to test equating. *Psychometrika* **74**, 211–232.
115. Karabatsos, G. and Walker, S.G. (2009). Rejoinder on the normalized maximum likelihood and Bayesian decision theory: Reply to Grünwald and Navarro (2009). *Journal of Mathematical Psychology* **53**, 52.
116. Fuentes–Garcia, R., Mena, R.H. and Walker, S.G. (2009). A nonparametric dependent process for Bayesian regression. *Statistics and Probability Letters* **79**, 1112–1119.
117. Bulla, P, Muliere, P. and Walker, S.G. (2009). A Bayesian nonparametric estimator of a multivariate survival function. *Journal of Statistical Planning and Inference* **139**, 3639–3648.
118. Hatjispyros, S.J., Nicolieris, T. and Walker, S.G. (2009). A Bayesian nonparametric study of a dynamic nonlinear model. *Computational Statistics and Data Analysis* **53**, 3948–3956.
119. Ruggiero, M. and Walker, S.G. (2009). Countable representation for infinite–dimensional diffusions derived from the two parameter Poisson Dirichlet process. *Electronic Communications in Probability* **14**, 501–517.
120. Favaro, S., Ruggiero, M. and Walker, S.G. (2009). On a Gibbs sampler–based random process in Bayesian nonparametrics. *Electronic Journal of Statistics* **3**, 1556–1566.

121. Mena, R.H. and Walker, S.G. (2009). On a construction of Markov models in continuous time. *Metron* **67**, 303–323.
122. Martinelli, A., Ruggiero, M. and Walker, S.G. (2010). A note on convergence rates for posterior distributions via large deviations techniques. *Statistical Papers* **51**, 337–347.
123. Favaro, S. and Walker, S.G. (2010). On the distributions of sums of independent exponential random variables via Wilks’ integral representation. *Acta Applicandae Mathematicae* **109**, 1035–1042.
124. Fuentes–Garcia, R. and Walker, S.G. (2010). A new approach to classification. *Journal of Applied Statistics* **37**, 137–146.
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126. Kalli, M., Griffin, J.E. and Walker, S.G. (2010). Slice sampling mixture models. *Statistics and Computing* **21**, 93–105.
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128. Fuentes–Garcia, R., Mena, R.H. and Walker, S.G. (2010). A new Bayesian nonparametric mixture model. *Communications in Statistics* **39**, 669–682.
129. Wang, X. and Walker, S.G. (2010). A penalised data–driven block shrinkage approach to empirical Bayes wavelet estimation. *Statistics and Probability Letters* **80**, 990–996.
130. Bissiri, P.G. and Walker, S.G. (2010). On Bayesian learning from Bernoulli observations. *Journal of Statistical Planning and Inference* **140**, 3520–3530.
131. Salway, R., Lee, D., Shaddick, G. and Walker, S.G. (2010). Bayesian latent variable modelling in studies of air pollution and health. *Statistics in Medicine* **29**, 2732–2742.
132. Karabatsos, G. and Walker, S.G. (2010). A Bayesian nonparametric model for test equating. In Chapter 11 of A. von Davier (Ed.), *Statistical Models for Equating, Scaling, and Linking*. Springer.

133. Fuentes–Garcia, R., Mena, R.H. and Walker, S.G. (2010). A probability for classification based on the mixture of Dirichlet process model. *Journal of Classification* **27**, 389–403.
134. Walker, S.G. and Gutiérrez-Peña, E. (2011). A decision–theoretical view of default priors. *Theory and Decision* **70**, 1–11.
135. Griffin, J.E. and Walker, S.G. (2011). Posterior simulation of normalized random measure mixtures. *Journal of Computational and Graphical Statistics* **20**, 241–259.
136. Favaro, S., Prünster, I., and Walker, S.G. (2011). On a class of random probability measures with general predictive structure. *Scandinavian Journal of Statistics* **38**, 359–376.
137. Walker, S.G. (2011). Bounds for the second largest eigenvalue of a transition matrix. *Linear and Multilinear Algebra* **59**, 755–760.
138. Shively, T.S., Walker, S.G. and Damien, P. (2011). Nonparametric function estimation subject to monotonicity, convexity and other shape constraints. *Journal of Econometrics* **161**, 166–181.
139. Hatjiskyros, S.J., Nicolieris, T. and Walker, S.G. (2011). Dependent mixtures of Dirichlet processes. *Computational Statistics and Data Analysis* **55**, 2011–2025.
140. Walker, S.G. (2011). Posterior sampling when the normalizing constant is unknown. *Communications in Statistics* **40**, 784–792.
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143. Walker, S.G., Laud, P.W., Zantedeschi, D. and Damien, P. (2011). Direct sampling. *Journal of Computational and Graphical Statistics* **20**, 692–713.
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164. Kalli, M., Walker, S.G. and Damien, P. (2013). Modelling the conditional distribution of daily stock index returns: an alternative Bayesian semiparametric model. *Journal of Business & Economic Statistics* **31**, 371–383.
165. Sanchez-Castaneda, M.D.L.D. and Walker, S.G. (2013). Group decision making. *Boletín de la Sociedad Matemática Mexicana* **19**, 319–338.
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167. Walker, S.G. and Karabatsos, G. (2013). Revisiting Bayesian curve fitting using multivariate normal mixtures. In *Bayesian Theory and Applications*, pp. 297–305. Oxford University Press.

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170. Walker, S.G. (2014). A Bayesian analysis of the Bingham distribution. *Brazilian Journal of Probability and Statistics* **28**, 61–72.
171. Rodriguez, C.E. and Walker, S.G. (2014). Univariate Bayesian non-parametric mixture modeling with unimodal kernels. *Statistics and Computing* **24**, 35–49.
172. Rodriguez, C.E. and Walker, S.G. (2014). Label switching in Bayesian mixture models: deterministic relabeling strategies. *Journal of Computational and Graphical Statistics* **23**, 25–45.
173. Villa, C. and Walker, S.G. (2014). Objective prior for the number of degrees of freedom of a  $t$  distribution. *Bayesian Analysis* **9**, 197–220.
174. Antoniano-Villalobos, I., Wade, S. and Walker, S.G. (2014). A Bayesian nonparametric regression model with normalized weights: A study of Hippocampal Atrophy in Alzheimer’s disease. *Journal of the American Statistical Association* **109**, 477–490.
175. Walker, S.G. (2014). Sampling un-normalized probabilities: An alternative to the Metropolis-Hastings algorithm. *SIAM Journal on Scientific Computing* **36**, A482–A494.
176. Walker, S.G. (2014). A note on geometric bounds for eigenvalues. *Linear Algebra and its Applications* **457**, 400–407.
177. Wu, J., Wang, X. and Walker, S.G. (2014). Bayesian nonparametric inference for a multivariate copula function. *Methodology and Computing in Applied Probability* **16**, 747–763.
178. Wade, S., Walker, S.G. and Petrone, S. (2014). A predictive study of Dirichlet process mixture models for curve fitting. *Scandinavian Journal of Statistics* **41**, 580–605.
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181. Walker, S.G. (2014). On a lower bound for the Jensen inequality. *SIAM Journal on Mathematical Analysis* **46**, 3151–3157.
182. Martin, R. and Walker, S.G. (2014). Asymptotically minimax empirical Bayes estimation of a sparse normal mean vector. *Electronic Journal of Statistics* **8**, 2188–2206.
183. Antoniano–Villalobos, I. and Walker, S.G. (2015). Bayesian consistency for Markov models. *Sankhya A* **77**, 106–125.
184. Karabatsos, G., Talbott, E. and Walker, S.G. (2015). A Bayesian nonparametric meta-analysis model. *Research Synthesis Methods* **6**, 28–44.
185. Walker, S.G. (2015). A probabilistic proof of the Hardy inequality. *Statistics and Probability Letters* **103**, 6–7.
186. Eves, C., Wang, X. and Walker, S.G. (2015). Bayesian information for sensors. *Quality and Reliability Engineering International* **31**, 1717–1724.
187. Villa, C. and Walker, S.G. (2015). An objective approach to prior mass functions for discrete parameter spaces. *Journal of the American Statistical Association*, **110**, 1072–1082.
188. Mena, R. H. and Walker, S.G. (2015). On the Bayesian mixture model and identifiability. *Journal of Computational and Graphical Statistics* **24**, 1155–1169.
189. Villa, C. and Walker, S.G. (2015). An objective Bayesian criterion to determine model prior probabilities. *Scandinavian Journal of Statistics* **42**, 947–966.
190. Scott, J.G, Shively, T.S. and Walker, S.G. (2015). Nonparametric testing for monotonicity. *Biometrika* **102**, 617–630.
191. Kirschenmann, T.H., Damien, P. and Walker, S.G. (2015). A note on the E-A histogram. *Statistics and Probability Letters* **103**, 105–109.
192. Karabatsos, G. and Walker, S.G. (2015). A Bayesian nonparametric causal model for regression discontinuity design. In *Nonparametric*

- Bayesian Inference in Biostatistics*. pp 403–421. *Frontiers in Probability and the Statistical Sciences*, Springer.
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  199. Contreras-Cristán, A., Gutiérrez-Peña, E. and Walker, S.G. (2017). On the asymptotic power of a goodness of fit test based on a cumulative Kullback-Leibler discrepancy. *Statistics and Probability Letters* **120**, 118–125.
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  201. Walker, S.G. (2017). A self-improvement to the Cauchy–Schwarz inequality. *Statistics and Probability Letters* **122**, 86–89.
  202. Martin, R.G., Mess, R. and Walker, S.G. (2017). Empirical Bayes posterior concentration in sparse high-dimensional linear models. *Bernoulli* **23**, 1822–1847.
  203. Wang, X. and Walker, S.G. (2017). An optimal data ordering scheme for Dirichlet process mixture model. *Computational Statistics and Data Analysis* **112**, 42–52.

204. Ho, C.S., Damien, P. and Walker, S.G. (2017). Bayesian mode regression using mixtures of triangular densities. *Journal of Econometrics* **197**, 273–283.
205. Holmes, C.C. and Walker, S.G. (2017). Assigning a value to a power likelihood in a general Bayesian model. *Biometrika* **104**, 497–503.
206. Villa, C. and Walker, S.G. (2017). On the mathematics of the Jeffreys-Lindley paradox. *Communications in Statistics* **46**, 12290–12298.
207. Walker, S.G. (2017). Inequalities from quasi-linear means. *Journal of Mathematical Inequalities* **11**, 653–665.
208. Chae, M. and Walker, S.G. (2017). A novel approach to Bayesian consistency. *Electronic Journal of Statistics* **11**, 4723–4745.
209. Walker, S.G. (2017). An iterative algorithm for solving sparse linear equations. *Communications in Statistics* **46**, 5113–5122.
210. Zhou, M., Favaro, S. and Walker, S.G. (2018). Frequency of frequencies distributions and size dependent exchangeable random partitions. To appear in *Journal of the American Statistical Association*.
211. Hatjispyros, S.J., Nicolieris, T. and Walker, S.G. (2018). Bayesian non-parametric density estimation under length bias. To appear in *Communications in Statistics*.
212. Kuffner, T.A. and Walker, S.G. (2018). Why are p-values controversial? To appear in *The American Statistician*.
213. Favaro, S. and Walker, S.G. (2018). On a general Maclaurins inequality. To appear in *Proceedings of the American Mathematical Society*.
214. Hahn, P.R., Martin, R. and Walker, S.G. (2018). On recursive Bayesian predictive distributions. To appear in *Journal of the American Statistical Association*.
215. Cappello, L. and Walker, S.G. (2018). A Bayesian motivated Laplace inversion for multivariate probability distributions. To appear in *Methodology and Computing in Applied Probability*.
216. Hatjispyros, S.J., Merkatas, C., Nicolieris, T. and Walker, S.G. (2018). Dependent mixtures of geometric weights priors. To appear in *Computational Statistics and Data Analysis*.

217. Paez, M.S. and Walker, S.G. (2018). Modeling with a large class of unimodal multivariate distributions. To appear in *Journal of Applied Statistics*.
218. Chae, M. and Walker, S.G. (2018). Bayesian consistency for a nonparametric stationary Markov model. To appear in *Bernoulli*.
219. Kirschenmann, T., Damien, P. and Walker, S.G. (2018). Bayesian estimation of the Cox model under different hazard rate shape assumptions. To appear in *Journal of Applied Statistics*.

#### ArXiv REPORTS

Stephen G. Walker. A Gibbs sampling alternative to Reversible Jump MCMC. ArXiv:09024117v1

Pier Giovanni Bissiri and Stephen G. Walker. A definition of conditional probability distribution with non-stochastic information. ArXiv:1102.3-681v1

#### CONFERENCES

1. Invited Speaker: Statisticians in the Pharmaceutical Industry, Blackpool, September 1995.
2. Invited Speaker: The art of nonparametric statistics: methodologies and applications, Université Catholique de Louvain, Belgium, February 1997.
3. Invited Speaker: Bayesian Nonparametric Conference, Belgirate, Italy, June 1997.
4. Invited Speaker: Mathematical Statistics and its Applications to Biosciences, ISI-Satellite Meeting, Rostock, August/September 1997.
5. Invited Speaker: 6th Valencia International Meeting on Bayesian Statistics, Las Fuentes, Spain, May/June 1998.
6. Invited Speaker: Joint Statistical Meeting, Dallas, USA, August 1998.
7. Presenter: Series of 4 Seminars at University of Bocconi, Milan, Italy, April 1999.

8. Presenter: Summer School, University of Bocconi, Milan, Italy, July 2000.
9. Joint Organizer: Bayesian Nonparametric Conference, Michigan, USA, July 2001.
10. Session Organizer: European Meeting of Statisticians, Portugal, August 2001.
11. Session Organizer: International Meeting on Nonparametric Statistics, Crete, June 2002.
12. Invited Speaker: Royal Statistical Society Conference, Plymouth, UK, September 2002.
13. Invited Speaker: 3rd Objective Bayesian Conference, Aussois, France, June 2003.
14. Session Organizer: ISI meeting, Berlin, August 2003.
15. Invited Speaker: ISBA 2004 World Meeting, Chile, May 2004.
16. Member of Scientific Committee: Bayesian Nonparametric Conference, Rome, June 2004.
17. Invited Speaker: COBAL 2 Meeting, San Jose, Mexico, Feb 2005.
18. Invited Speaker: European Meeting of Statisticians, Oslo, July 2005.
19. Member of Scientific Committee: Bayesian Nonparametric Conference, Korea, 2006.
20. Invited Speaker: JSM, Seattle, August 2006.
21. Co-organizer: Isaac Newton Institute Programme on Bayesian Nonparametric Regression, Cambridge, July/August 2007.
22. Member of Scientific Committee: Bayesian Nonparametric Conference, Turin, June 2009.
23. Speaker: JSM, Vancouver, August 2010.
24. Invited Speaker: International Workshop of the ERCIM Working Group on Computing and Statistics, London, December 2010.
25. Member of Scientific Committee: Bayesian Nonparametric Conference,

Mexico, 2011.

26. Invited Speaker: ISI World Statistics Congress, Dublin, August 2011.
27. Keynote Speaker: 4th International Conference of the ERCIM Working Group on Computing & Statistics. London, December 2011.
28. Keynote Speaker: ISBA 2012 World Meeting, Kyoto, June 2012.
29. Programme Committee Member: EMS, Budapest, 2013.
30. Member of Scientific Committee: Bayesian Nonparametric Conference, Amsterdam, 2013.
31. Invited Speaker: RSS Meeting on Bayes, London, June 2013.
32. Invited Speaker: High Dimensional Inference with Applications, University of Kent, June 2013.
33. Invited Speaker: ERCIM 2013, London, December 2013.
34. Invited Speaker: CORE-UCL Workshop on Bayesian Modeling and Identification, Louvain-La-Neuve, May 2014.
35. Invited Speaker: 38th Conference on Stochastic Processes and their Applications, Oxford, July 2015.
36. Plenary Speaker: XIII Brazilian Meeting on Bayesian Statistics, February 2016.
37. Special Topic Speaker: ISBA 2016, June 2016.
38. Invited Speaker: Bayesian Nonparametric Conference, Paris, June 2017
39. Invited Speaker: Workshop dedicated to 70th birthday of Pietro Muliere, June 2017.

## GRANTS

Investigator: Bayesian nonparametric statistics; methods, theory and applications Workshop. University of Reading, 23 - 28 July, 1999. Funded by EPSRC (GR/M64772/01), £ 16,436.

EPSRC Advanced Research Fellowship (GR/A11533/01 & 02), October 2001–

September 2006, £ 249,057.

Co-investigator with C.Chatfield: Mixed effects models for functional data. Funded by EPSRC (GR/R55375/01), £ 6,342.

Co-investigator with S.T.B.Choy, University of Hong Kong: Analysis of generalised linear mixed models with applications. Funded by Research Grants Council, Hong Kong.

Nuffield Foundation Undergraduate Research Bursary, £ 1,186.

Co-investigator with X. Wang, KTP (Knowledge Transfer Partnership) grant funded by Technology Strategy Board. 2011-2013, £ 124,776.

Consultant: Advances and applications in Bayesian density regression (PI: George Karabatsos, University of Illinois–Chicago). Funded by National Science Foundation, Program in Methodology, Measurement, and Statistics: Grant Number SES-1156372. June, 2012 to June, 2014, \$280,000.

Principal Investigator: NSF DMS Award No. 1506879. Collaborative Research (with Ryan Martin, NSF DMS 1507073): Optimal Bayesian concentration rates from double empirical priors. 1 August 2015 to 31 July 2018. \$ 125,576.

Principal Investigator: NSF DMS Award No. 1612891. Collaborative Research: New statistically motivated solutions to classical inverse problems. 1 August 2016 to 31 July 2019. \$ 125,645.

### PhD STUDENTS

1. Luis Nieto–Barajas. (2001). Bayesian nonparametric survival analysis via Markov processes. (Winner L.J. Savage Award, 2001).
2. Samia Adham. (2001). Multivariate Gompertz and Gompertz-type distributions.
3. Ramses Mena. (2003). Stationary models using latent structures. (Honorable mention L.J. Savage Award, 2004).
4. Paolo Bulla. (2004). Application of reinforced urn processes to survival analysis. (Joint with Pietro Muliere).
5. Louise Choo. (2006). Investigating spatial variations of non-infectious

diseases.

6. Matteo Ruggiero. (2007). Urn-based particle processes for Fleming-Viot models in Bayesian nonparametrics. (Joint with Pietro Muliere).
7. Maria Kalli. (2008). Bayesian nonparametrics and applications in financial econometrics.
8. Stefano Favaro. (2008). Contributions to the Dirichlet process and related classes of random probability measures. (Joint with Pietro Muliere).
9. Dolores Sanchez Castaneda. (2009). Group decision making: Theory and applications.
10. David Rodrigues. (2010). Modeling election poll data using time series analysis.
11. Juan-Carlos Martinez Ovando. (2011). Contributions to Bayesian nonparametric modeling of time series data (Winner L.J.Savage Award, 2011).
12. Fei Xiang. (2011). Bayesian consistency for nonparametric regression models.
13. Antonio Ortiz. (2012). Bayesian mixture models in extreme value theory with an application to investment portfolio analysis.
14. Isadora Antoniano. (2012). Bayesian inference for models with infinite-dimensionally generated intractable components.
15. Carlos Erwin Rodriguez. (2012). Contributions to the Bayesian analysis of mixture models.
16. Cristiano Villa. (2013). An objective Bayesian approach for discrete parameters.
17. Sara Wade (2013). Bayesian nonparametric regression through mixture models. (Co-advisor with Sonia Petrone).
18. Lorenzo Cappello. Start 2015 (Joint with Sonia Petrone).
19. Novin Ghaffari. Start 2016.
- 20 Mengjie Wang. Start 2017.
- 21 Li Kang. Start 2017 (Joint with Paul Damien).



22. Matteo Vestrucci. Start 2017.

23. Su Chen. Start 2017.

#### POST-DOCTORAL STUDENTS

1. Pier-Giovanni Bissiri (2010–2012).

2. Marina Silva Paez (2014–2015).

3. Minwoo Chae (2015–2017).

#### DUTIES

Member of Research Section of Royal Statistical Society, 1997–1999.

Associate Editor for Scandinavian Journal of Statistics, 2006–2009.

Associate Editor for Annals of Statistics, 2007–2009.

De Groot Prize Committee Member, 2010.

Chair: Bayesian Nonparametric Section of ISBA, 2011–2012.

Guest Editor: Computational Statistics & Data Analysis: Special Issue on Bayesian Computing, Methods and Applications.

Associate Editor for Journal of Statistical Planning & Inference, 2012–2017.

Associate Editor for Computational Statistics & Data Analysis, 2012–2017.

Associate Editor for Annals of Statistics, 2012–2017.

Associate Editor for Statistica Sinica, 2012–2017.

Meta-Reviewer, AISTats, 2014.

Associate Editor for JASA, 2017–

Executive Editor for Journal of Statistical Planning & Inference, 2017–2020.