24 September 2026

CURRICULUM VITAE

Name:	David A. Stephens
Nationality:	British, Canadian
Current Position:	Professor
Current Address:	Department of Mathematics and Statistics McGill University, Burnside Hall 805 Sherbrooke Street West Montreal, QC, H3A 0B9, Canada

Employment

2006-Present	**McGill University, Montreal, Canada** Department of Mathematics and Statistics, Professor
2025-Present	**McGill University, Montreal, Canada** Academic Lead, Horizon McGill
2019-2025	**McGill University, Montreal, Canada** Vice-Dean, Faculty of Science
2015-2019	**McGill University, Montreal, Canada** Chair of the Department of Mathematics and Statistics
2011-2018	**McGill University, Montreal, Canada** James McGill Professor
1995-2006	**Imperial College London, UK** Department of Mathematics, Lecturer/Senior Lecturer
1990-1995	**Imperial College London, UK** Department of Mathematics, Research Associate
1986-1990	**University of Nottingham, UK** PhD in Statistics, *Bayesian Edge Detection in Image Processing* Supervisor: Prof. Adrian F. M. Smith
1983-1986	**University of Nottingham, UK** BSc in Mathematics (First Class Hons.)

Research Interests: Bayesian statistics: methodological and computational methods. Specific areas of interest include bioinformatics, biostatistics, causal inference, and time series analysis.

Honours & Awards

- Fellow of the Royal Society of Canada, Elected 2024
- Gold Medal, The Statistical Society of Canada, May 2022
- Elected Fellow, American Statistical Association, 2019
- Elected Fellow, International Statistical Institute, 2015

Publications

https://scholar.google.ca/citations?user=NRlAymQAAAAJ&hl=en

1. Wu, H, Stephens, DA, Moodie, EEM, **Spatial stochastic epidemic modeling of COVID-19 outbreaks in France,** Accepted, *Annals of Applied Statistics*, July 2026.
2. Toure, MD and Stephens, DA, **Not Just How Much, But Where: Decomposing Epistemic Uncertainty into Per-Class Contributions**, Accepted, *Uncertainty in Artificial Intelligence (UAI)*, arXiv preprint arXiv:2602.21160, 2026
3. Toure, MD and Stephens, DA, **Singular Bayesian Neural Networks**, Accepted *International Conference on Machine Learning (ICML),* arXiv preprint arXiv:2602.00387, 2026.
4. Rodriguez Duque, D, Stephens DA and Moodie EEM, **Estimation of Optimal Dynamic Treatment Regimes using Gaussian Process Emulation**, *Biometrics*, 82(1) Published online https://doi.org/10.1093/biomtc/ujaf174 January 2026
5. Fleischer, D, Stephens, DA and Yang, AY **Accelerating Generalized Random Forests with Fixed-Point Trees,** arxiv.org/pdf/2306.11908**,** *Proceedings of the 42nd International Conference on Machine Learning (ICML),* 267, 17262-17305, 2025.
6. McVittie, JH, Addona, V, Wolfson, DB and Stephens, DA, **Testing for a change in the failure time distribution using combined data from an incident and a prevalent cohort,** *Statistics and its Interface*, 18 (1), 131-137, 2025.
7. Turchetta, A, Moodie, EEM, Stephens, DA, Savy, N, Moodie, Z, **The time-dependent Poisson-gamma model in practice: Recruitment forecasting in HIV trials**, *Contemporary Clinical Trials*, 144, 107607, 2024.
8. Shokoohi F, Stephens DA, and Greenwood CMT, **Identifying Differential Methylation in Cancer Epigenetics via a Bayesian Functional Regression Model**, *Biomolecules*,14 (6), 639, 2024.
9. Wu, H, Stephens, DA, Moodie, EEM, **An SIR-based Bayesian Framework for COVID-19 Infection Estimation**, *The Canadian Journal of Statistics*, 52 (4), e11817, 2024
10. Omar, Z, Stephens, DA, Schmidt, AM, Buckeridge, DL, **A Bayesian Non-Stationary Heteroskedastic Time Series Model for Multivariate Critical Care Data**. *Statistics in Medicine*, 43 (20), 3958-3974, 2024.
11. McVittie, JH, Wolfson, DB, Stephens, DA**, The survival function NPMLE for combined right-censored and length-biased right-censored failure time data: Properties and applications,** *International Journal of Biostatistics*, 20 (2), 531-551, 2024.
12. Murphy TJ, Swail H, Jain J, Anderson M, Awadalla P, Behl L, Brown PE, Charlton CL, Colwill K, Drews SD, Gingras AC, Hinshaw D, Jha P, Kanji JN, Kirsh VA, Lang ALS, Langlois MA, Lee S, Lewin A, O'Brien SF, Pambrun C, Skead K, Stephens DA, Stein DR, Tipples G, Van Caeseele PG, Evans TG, Oxlade O, Mazer BD, Buckeridge DL. **The evolution of SARS-CoV-2 seroprevalence in Canada: a time-series study, 2020–2023**. *Canadian Medical Association Journal (CMAJ)*, August 14;195:E1030-7. August 2023, doi: 10.1503/cmaj.230949
13. Turchetta, A, Savy, N, Stephens, DA, Moodie, EEM, Klein, MB, **A time-dependent Poisson-Gamma model for recruitment forecasting in multicenter studies**, *Statistics in Medicine*, 42 (23), 4193-4206, 2023.
14. Stephens DA, Nobre WS, Moodie EEM and Schmidt, AM, **Causal inference under mis-specification: adjustment based on the propensity score (with Discussion)**, *Bayesian Analysis*, 18 (2), 639-694. 2023.

15. McVittie, JH, Best, AF, Wolfson, DB, Stephens, DA, Wolfson, J, Buckeridge, DL, and Gadalla, SM **Survival Modelling for Data from Combined Cohorts: Opening the Door to Meta Survival Analyses and Survival Analysis Using Electronic Health Records.** *International Statistical Review*, 91: 72– 87, https://doi.org/10.1111/insr.12510, 2023.
16. Nobre WS, Schmidt, AM, Moodie EEM and Stephens DA, **The impact of directly observed therapy on the efficacy of Tuberculosis treatment: A Bayesian multilevel approach**, *Journal of the Royal Statistical Society, Series C: Applied Statistics,* **72** (4), 889–911, 2023.
17. Rodriguez Duque, D, Moodie EEM, Stephens DA, **Bayesian Inference for Optimal Dynamic Treatment Regimes in Practice**, Accepted for publication, *International Journal of Biostatistics*, March 2023.
18. Saarela, O, Stephens, DA, and Moodie, EEM, **The Role of Exchangeability in Causal Inference**, *Statistical Science*, **38** (3), 369-385, 2023.
19. Rodriguez Duque D, Stephens DA, Moodie EEM, Klein MB. **Semiparametric Bayesian inference for optimal dynamic treatment regimes via dynamic marginal structural models**. *Biostatistics*. **24** (3), 708-727, 2023.
20. Turchetta, A, Moodie, EEM, Stephens, DA, and Lambert, SD, **Bayesian Sample Size Calculations for SMART Studies,** *Biometrics*, 79 (3), 2489-2502, 2023.
21. Luo Yu, Stephens DA, and Buckeridge DL, **Bayesian Clustering of Continuous-Time Hidden Markov Models**, *Canadian Journal of Statistics*, 51 (1), 134-156, 2023
22. Moodie, EEM and Stephens, DA, **Causal inference: Critical developments, past and future,** *Canadian Journal of Statistics*, **50** (4), 1299-1320, December 2022
23. McVittie, JH, Wolfson, DB, and Stephens**,** DA, **A note on the partial likelihood estimator of the proportional hazards model for combined incident and prevalent cohort data.** *Metrika* **86** (4), 487-497. 2022.
24. El Hanchi, A, Stephens, DA, and Maddison, CJ, **Stochastic Reweighted Gradient Descent,** *Proceedings of the 39th International Conference on Machine, Learning*, Baltimore, Maryland, USA, PMLR 162, June 2022. https://arxiv.org/pdf/2103.12293.pdf,
25. Cote, M-P, Genest, C and Stephens DA, **A Bayesian approach to modeling multivariate multi-level insurance claims in the presence of unsettled claims,** *Bayesian Analysis*, **17**(1): 67-93. DOI: 10.1214/20-BA1243, January 2022.
26. Wang, S. Moodie, EEM; Stephens, DA and Nijjar, J, **Adaptive treatment strategies for chronic conditions: Shared-parameter G-estimation for rheumatoid arthritis,** *Biostatistics*, 23 (2), 430-448, 2022.
27. Farrell, MJ, Elmasri, M, Stephens, DA and Davies TJ, **Predicting missing links in global host-parasite networks,** *Journal of Animal Ecology*, December 2021.
28. Brenner BG, Ibanescu R-I, Osman N, Cuadra-Foy E, Oliveira M, Chaillon A, Stephens DA, Hardy I, Routy J-P, Thomas R, Baril J-G, Leblanc R, Tremblay C, Roger M, The Montreal Primary HIV Infection Cohort Study Group. **The Role of Phylogenetics in Unravelling Patterns of HIV Transmission towards Epidemic Control: The Quebec Experience (2002–2020).** *Viruses*; 13(8):1643., 2021.
29. Khalili A, and Stephens DA**, Sparseness, consistency, and model selection for Markov regime-switching Gaussian autoregressive models**, *Statistica Sinica,* 31, 1891-1914, 2021.
30. Taguer M, Darbinian E, Wark K, Ter-Cheam A, Stephens DA and Maurice CF, **Changes in gut bacterial translation occur before symptom onset and dysbiosis in dextran sodium sulfate-induced murine colitis,** 6(6), *mSystems,* https://doi.org/10.1128/mSystems.00507-21 July 2021.

31. Luo Y and Stephens DA, **Bayesian inference for continuous-time hidden Markov models with an unknown number of states,** *Statistics and Computing*, 31 (5), 1-15, July 2021.
32. Luo Y, Stephens DA, Verma, A and Buckeridge DL, **Bayesian Latent Multi-State Modeling for Non-Equidistant Longitudinal Electronic Health Records**, *Biometrics,* 77(1), 78-90, 2021, doi.org/10.1111/biom.13261
33. El Hanchi, A and Stephens, DA, **Adaptive Importance Sampling for Finite-Sum Optimization and Sampling with Decreasing Step-Sizes,** *Advances in Neural Information Processing Systems*, **33**, 2020.
34. McVittie, JH, Wolfson, DB, Stephens, DA**,** Addona, V, and Buckeridge, DL, **Parametric models for combined failure time data from an incident cohort study and a prevalent cohort study with follow-up,** *The International Journal of Biostatistics***,** 2020, doi: https://doi.org/10.1515/ijb-2020-0042.
35. McGillivray A, Khalili A, and Stephens DA**, Estimating networks with hubs for microbiome data,** *Journal of Multivariate Analysis*, **179,** 1046-55, June 2020.
36. McVittie, JH, Wolfson, DB and Stephens, DA**. A note on the applicability of the standard nonparametric maximum likelihood estimator for combined incident and prevalent cohort data.** *STAT*; 9: e280.doi.org/10.1002/sta4.280, March 2020.
37. Elmasri M, Farrell M, Davies, TJ and Stephens DA, **A hierarchical Bayesian model for predicting host-parasite interactions using phylogenetic information**, *Annals of Applied Statistics,* **14** (1), 221-240, 2020.
38. McVittie, JH, Wolfson, DB and Stephens, DA, **Parametric modelling of prevalent cohort data with uncertainty in the measurement of the initial onset date**, *Lifetime Data Analysis,* **26**, 389–401, 2020.
39. Wallace MP, Moodie EEM, and Stephens DA, **Model selection for G-estimation of dynamic treatment regimes**, *Biometrics*, 75 (4), 1205-1215, December 2019.
40. Powell, GA, Verma, A, Luo Yu, Stephens DA, and Buckeridge DL, **Modeling Chronic Obstructive Pulmonary Disease Progression Using Continuous-Time Hidden Markov Models**, *Studies in Health Technology and Informatics*, 264, 920-924, 2019.
41. Villandre L, Labbe A, Brenner BG, Ibanescu, RI, Roger M, and Stephens DA, **Assessing the role of transmission chains in the spread of HIV-1 among men who have sex with men in Quebec, Canada,** *PLoS One* 14 (3), e0213366, 2019.
42. Shokoohi F, Stephens DA, Bourque G, Pastinen T, Greenwood C, and Labbe A**, A hidden Markov model for identifying differentially methylated sites in bisulfite sequencing data,** *Biometrics***,** 75 (1), 210-221, 2019.
43. Moodie EEM, Stephens DA, Alam S, Zhang M-J, Logan B, Arora M, Spellman S, and Krakow EF, **A cure-rate model for Q-learning: Estimating an adaptive immunosuppressant treatment strategy for allogeneic hematopoietic cell transplant patients,** *Biometrical Journal,* 61 (2), 442-453, 2019.
44. Alam S, Moodie EEM, and Stephens DA, **Should a propensity score model be super? The utility of ensemble procedures for causal adjustment,** *Statistics in Medicine*, 38 (9), 1690-1702, 2019.
45. Luo Yu, Stephens DA, and Buckeridge DL, **Estimating prevalence using indirect information and Bayesian evidence synthesis,** *The Canadian Journal of Statistics*, 46 (4), 673-689, 2018.
46. Moodie EEM, Saarela O, and Stephens DA, **A doubly robust weighting estimator of the average treatment effect on the treated**, *Stat*, 7, e205, doi:10.1002/sta4.205, October 2018.
47. Villandré L, Labbe A, Brenner B, Roger M, and Stephens DA, **DM-PhyClus: A Bayesian phylogenetic algorithm for infectious disease transmission cluster inference**, *BMC Bioinformatics*, 19, 324 (doi.org/10.1186/s12859-018-2347-3), September 2018.
48. Wallace MP, Moodie EEM, and Stephens DA, **Reward ignorant modeling of dynamic treatment regimes**, *Biometrical Journal* 20 (5), 991-1002, May 2018.

49. Shohoudi A, Stephens DA, and Khairy P, **Bayesian adaptive trials for rare cardiovascular conditions,** Future Cardiology, 14 (2), 143-150, February 2018.
50. Moodie EEM, Stephens DA, and Wallace MP, **G-estimation**, *Wiley StatsRef*, doi: 10.1002/9781118445112.stat08046, February 2018.
51. Moodie EEM and Stephens DA, **Dynamic treatment regimes**, *Wiley StatsRef*, doi: 10.1002/9781118445112.stat08040, February 2018.
52. Khalili A, Chen J, and Stephens DA, **Regularization in regime-switching Gaussian autoregressive models**, *The Canadian Journal of Statistics*, 45 (4), 356-374, December 2017.
53. Ertefaie A, Asgharian M, and Stephens DA, **Variable Selection in Causal Inference using a Simultaneous Penalization Method,** *The Journal of Causal Inference*, 6(1), doi.org/10.1515/jci-2017-0010, December 2017.
54. Moodie EEM and Stephens DA, **Treatment Prediction, Balance, and Propensity Score Adjustment,** (Research Letter), *Epidemiology*, 28 (5), e51-e53, 2017.
55. Wallace MP, Moodie EEM, and Stephens DA, **Dynamic treatment regimen estimation via regression-based techniques**: **Introducing R Package DTRreg**, *Journal of Statistical Software*, 80, i02, 1-20, doi: 10.18637/jss.v080.i02, August 2017.
56. Wallace MP, Moodie EEM, and Stephens DA, **Model validation and selection for personalized medicine using dynamic weighted ordinary least squares**, *Statistical Methods in Medical Research,* 26 (4), 1641 – 1653, May 2017.
57. Wallace MP, Moodie EEM, and Stephens DA, **An R Package for G-estimation of Structural Nested Mean Models (**Research Letter**)**, *Epidemiology*, 28(2), e18-20, 2017.
58. Powell GA, Luo YT, Verma A, Stephens DA, Buckeridge DL**. Multivariate and Longitudinal Health System Indicators.** *Studies in Health Technology and Informatics***,** 235:266-270. PMID: 28423795, 2017.
59. Brenner BG, Ibanescu R-I, Hardy I, Stephens DA, Otis J, Moodie EEM, Grossman Z, Vandamme A-M, Roger M, Wainberg MA, and the Montreal PHI, SPOT cohorts, **Large cluster outbreaks sustain the HIV epidemic among men having sex with men (MSM) in Quebec from 2002 to 2015,** *AIDS***,** 31 (5), 707-717, December 2016.
60. Wallace MP, Stewart CE, Moseley MJ, Stephens DA, and Fielder AR, **Treatment of Amblyopia Using Personalized Dosing Strategies: Statistical Modelling and Clinical Implementation**, *Strabismus,* 24 (4), 161-168, December 2016.
61. Wallace MP, Moodie EEM, and Stephens DA, **Model assessment in dynamic treatment regimen estimation via double robustness,** *Biometrics*, 72, 855–864, doi:10.1111/biom.12468, September 2016.
62. Wallace MP, Moodie EEM, and Stephens DA, **SMART Thinking: A Review of Recent Developments in Sequential Multiple Assignment Randomized Trials**, *Current Epidemiology Reports,* 3 (3), 225-232, August 2016.
63. Saarela O, Belzile LR, and Stephens DA, **A Bayesian view of doubly robust causal inference**, *Biometrika,* 103(3), 667-681, July 2016.
64. Villandre L, Stephens DA, Labbe A, Günthard HF, Kouyos R, and Stadler T, **Assessment of Overlap of Phylogenetic Transmission Clusters and Communities in Simple Sexual Contact Networks: Applications to HIV-1***, PLoS ONE* 11(2): e0148459, doi: 10.1371/journal.pone.0148459, February 2016.
65. Graham DJ, McCoy EJ, and Stephens DA, **Approximate Bayesian Inference for Doubly Robust Estimation**, *Bayesian Analysis*, 11 (1), 47-69, doi: 10.1214/14-BA928, February 2016.
66. Vrbik I, Stephens DA, Brenner BG, and Roger M, **The Gap Procedure: for the identification of phylogenetic clusters in HIV-1 sequence data**, *BMC Bioinformatics*, 16 (1), 355, October 2015.

67. Rich B, Moodie EEM, and Stephens DA, **Optimal individualized dosing strategies: A pharmacologic approach to developing dynamic treatment regimens for continuous-valued treatments,** *Biometrical Journal*, 10.1002/bimj.201400244, November 2015.
68. Saarela O, Arjas E, Stephens DA, and Moodie EEM, **Predictive Bayesian inference and dynamic treatment regimes,** *Biometrical Journal*, doi: 10.1002/bimj.201400153, August 2015.
69. Rich B, Moodie EEM, and Stephens DA, **Influence re-weighted g-estimation,** *International Journal of Biostatistics*, doi: 10.1515/ijb-2015-0015, August 2015.
70. Gough EK, Stephens DA, Moodie EEM, Prendergast AJ, Stoltzfus RJ, Humphrey JH, and Manges AR, **Linear growth faltering in infants is associated with *Acidaminococcus sp.* and community-level changes in the gut microbiota,** *Microbiome*, 13, 3:24, doi: 10.1186/s40168-015-0089-2, June 2015.
71. Ertefaie A, Asgharian M, and Stephens DA, **Double Bias: estimation of causal effects from length-biased samples in the presence of confounding,** *International Journal of Biostatistics*, 11(1), 69-89, doi: 10.1515/ijb-2014-0037, May 2015.
72. Moseley MJ, Wallace MP, Stephens DA, Fielder AR, Smith LC, Stewart CE, and RODS (Randomized Occlusion Dosing Strategies) Study Cooperative, **Personalized versus standardized dosing strategies for the treatment of childhood amblyopia: study protocol for a randomized controlled trial,** *Trials,* 16:189, doi: 10.1186/s13063-015-0711-4, April 2015.
73. Weston D, Russell RA, Batty E, Jensen K, Stephens DA, Adams NM, and Freemont PS, **New quantitative approaches reveal the spatial preference of nuclear compartments in mammalian fibroblast**s, *Journal of the Royal Society Interface*, 12(104), pii: 20140894, doi: 10.1098/rsif.2014.0894, March 2015.
74. Caron F, Holmes CC, Griffin JE, and Stephens DA, **Two-sample Bayesian nonparametric hypothesis testing**, *Bayesian Analysis*, 10(2), 297-320, February 2015.
75. Saarela O, Stephens DA, Moodie EEM, and Klein MB, **On Bayesian estimation of marginal structural models (with Discussion)**, *Biometrics,* 71(2):279-88, doi: 10.1111/biom.12269, June 2015.
76. Graham DJ, McCoy EJ, and Stephens DA, **Quantifying Causal Effects of Road Network Capacity Expansions on Traffic Volume and Density via a Mixed Model Propensity Score Estimator,** *Journal of the American Statistical Association***,** 109 (508), 1440-1449, doi: 10.1080/01621459.2014.95687, December 2014.
77. Hanley JA, Saarela O, Stephens DA, and Thalabard J-C, **hGH isoform**s **differential immunoassays applied to blood samples from athletes: Decision limits for anti-doping testing,** *Growth Hormone & IGF Research,* 24(5), 205–215, doi: 10.1016/j.ghir.2014.06.001, October 2014.
78. Ertefaie A, Asgharian M, and Stephens DA, **Propensity score estimation in the presence of length-biased sampling: a non-parametric adjustment approach**, *Stat,* 3, 83–94, doi: 10.1002/sta4.46, March 2014.
79. Rich B, Moodie EEM, and Stephens DA, **Simulating sequential multiple assignment randomized trials to generate optimal personalized warfarin dosing strategies,** *Clinical Trials*, 11 (4), 435-444, May 2014.
80. Moodie EEM, Stephens DA, and Klein MB, **A marginal structural model for multiple-outcome survival data: assessing the impact of injection drug use on several causes of death in the Canadian Co-infection Cohort**, *Statistics in Medicine,* 33 (8), 1409-1425, 2014.
81. Wallace MP, Stewart CE, Moseley MJ, Stephens DA, Fielder AR**,** Monitored Occlusion Treatment Amblyopia Study (MOTAS) Cooperatives, and the Randomized Occlusion Treatment Amblyopia Study (ROTAS) Cooperative, **Compliance with occlusion therapy for childhood amblyopia,** *Investigations in Ophthalmology and Visual Science,* 17, 54(9), 6158-66, doi: 10.1167/iovs.13-11861, 2013.

82. Stewart CE, Wallace MP, Stephens DA, Fielder AR, Moseley MJ, and the MOTAS Cooperative, **The effect of amblyopia treatment on stereoacuity**, *Journal of American Association for Pediatric Ophthalmology and Strabismus*, 17(2), 166-73, doi: 10.1016/j.jaapos.2012.10.021, April 2013.
83. Vincent C, Stephens DA, Loo VG, Edens TJ, Behr MA, Dewar K, and Manges AR, **Reductions in intestinal Clostridiales precede the development of nosocomial *Clostridium difficile* infection,** *Microbiome,* 28, 1(1), 18, doi: 10.1186/2049-2618-1-18, June 2013.
84. Graham DJ, McCoy EJ, and Stephens DA, **Quantifying the effect of area deprivation on child pedestrian casualties by using longitudinal mixed models to adjust for confounding, interference and spatial dependence**, *Journal of the Royal Statistical Society, Series A,* 176, Part 4, 931-950, 2013.
85. Astle WJ, De Iorio M, Richardson S, Stephens DA, and Ebbels TE, **A Bayesian Model of NMR Spectra for the Deconvolution and Quantification of Metabolites in Complex Biological Mixtures**, *Journal of the American Statistical Association*, doi: 10.1080/01621459.2012.695661, 2012.
86. Weston DJ, Adams NM, Russell RA, Stephens DA, and Freemont PS, **Analysis of Spatial Point Patterns in Nuclear Biology**, *PLoS ONE*, 7(5): e36841, doi: 10.1371/journal.pone.0036841, May 2012.
87. Brenner BG, Roger M, Stephens DA, Moisi D, Hardy I, Weinberg J, Turgel JR, Charest H, Koopman J, Wainberg MA, and the Montreal PHI Cohort Study Group, **Transmission Clustering Drives the Onward Spread of the HIV Epidemic Among Men Who Have Sex with Men in Quebec,** *Journal of Infectious Diseases*, 204, 1115-1119, 2011.
88. Crowder MJ and Stephens DA, **On inference from Markov chain macro-data using transforms**, *Journal of Statistical Planning and Inference*, 141(9), 3201-3216, September 2011.
89. Jasra A, Stephens DA, Doucet A, and Tsagaris T, **Inference for Levy-Driven Stochastic Volatility Models Via Adaptive Sequential Monte Carlo,** *Scandinavian Journal of Statistics*, 38, 1–22, 2011.
90. Moodie EEM and Stephens DA, **Marginal Structural Models: Unbiased estimation for longitudinal studies,** *International Journal of Public Health*, 56(1), 117-9, February 2011.
91. Moodie EEM and Stephens DA, **Using Directed Acyclic Graphs to detect limitations of traditional regression in longitudinal studies**, *International Journal of Public Health*, 55(6), 701-3, December 2010.
92. Yip W, Stephens DA, and Olhede SC, **Hedging Strategies and minimal variance portfolios for European and exotic options in a Levy market**, *Mathematical Finance*, 20(4), 617–646, October 2010.
93. Sagoo P, Perucha E, Sawitzki B, Tomiuk S, Stephens DA, et al., **Development of cross-platform biomarkers to detect renal transplant tolerance in man**, *Journal of Clinical Investigation*, 120(6), 1848–1861, doi: 10.1172/JCI39922, 2010.
94. Yip W, Stephens DA, and Olhede SC, **The Explicit Chaotic Representation of the Powers of Increments of Levy Processes,** *Stochastics*, 82 (3), 257-290, 10.1080/17442501003625263, June 2010.
95. Moodie EEM and Stephens DA, **Estimation of Dose-Response Functions for Longitudinal Data Using the Generalized Propensity Score**, *Statistical Methods in Medical Research*, doi: 10.1177/0962280209340213, published online May 2010.
96. Ertefaie A and Stephens DA, **Comparing Approaches to Causal Inference for Longitudinal Data: Inverse Probability Weighting versus Propensity Scores,** *International Journal of Biostatistics*: 6(2), 14, doi: 10.2202/1557-4679.1198, January 2010.
97. Rich B, Moodie EEM, Stephens DA, and Platt RP, **Model Checking with Residuals for g-estimation of Optimal Dynamic Treatment**, *International Journal of Biostatistics*: 6(2), 12, doi: 10.2202/1557-4679.1210, January 2010.
98. Metcalf CJE, Stephens DA, Rees M, Louda SM, and Keeler KH, **Using Bayesian inference to understand the allocation of resources between sexual and asexual reproduction**, *Journal of the Royal Statistical Society Series C*, 58(2), 143-170(28), May 2009.

99. Russell RA, Adams NM, Stephens DA, Batty E, Jensen K, and Freemont PS**, Segmentation of Fluorescence Microscopy Images for Quantitative Analysis of Cell Nuclear Architecture**, Biophysical Journal, 22, 96(8), 3379-89, April 2009.
100. Graham DJ and Stephens DA, **Decomposing the impact of deprivation on child pedestrian casualties in England**, *Accident Analysis & Prevention*, 40(4), 1351-64, 2008.
101. Jasra A, Doucet A, Stephens DA, and Holmes CC, **Interacting sequential Monte Carlo samplers for trans-dimensional simulation**, *Computational Statistics & Data Analysis*, 52, 1765-1791, 2008.
102. Stewart CE, Stephens DA, Fielder AR, and Moseley MJ, **Randomized Trial of Objectively Monitored Patching Regimens for Amblyopia Treatment**, *British Medical Journal*, doi: 10.1136/ bmj.39301.460150.55, 2007.
103. Jasra A, Stephens DA, and Holmes CC, **Population-based Reversible Jump Markov chain Monte Carlo**, *Biometrika*, 94(4), 787-807, 2007.
104. Jasra A, Stephens DA, and Holmes CC, **On Population-based Simulation for Static Inference**, *Statistics and Computing*, 17(3), 263-279, 2007.
105. Gander MPS and Stephens DA, **Inference for Stochastic Volatility Models Driven by Levy Processes**, *Biometrika*, 94(3), 627-646, 2007.
106. Shiels C, Adams NM, Islam SA, Stephens DA, and Freemont PS, **Quantitative analysis of cell nucleus organisation**, *PloS Computational Biology*, 3(7):e138, doi:10.1371/journal.pcbi.0030138, 2007.
107. Stewart CE, Stephens DA, Fielder AR, and Moseley MJ, **Modeling Dose-Response in Amblyopia: Toward a Child-Specific Treatment Plan,** *Investigations in Ophthalmology and Visual Science*, 48, 2589-2594, 2007.
108. Gander MPS and Stephens DA, **Stochastic Volatility Modelling with General Marginal Distributions: Inference, Prediction and Model Selection**, *Journal of Statistical Planning and Inference*, 137, 3068 – 3081, 2007.
109. Moodie EEM, Richardson TS, and Stephens DA, **Demystifying Optimal Dynamic Treatment Regimes,** *Biometrics*, 63, 447–455, 2007.
110. Stephens DA and Crowder MJ**, Bayesian analysis of quasi-life tables**, *Lifetime Data Analysis*, 12, 117–141, 2006.
111. Giatrakos N, Kinali M, Stephens DA, Dawson D, Muntoni F, and Nihoyannopoulos P, **Cardiac tissue velocities and strain rate in the early detection of myocardial dysfunction of asymptomatic boys with Duchenne's muscular dystrophy: relationship to clinical outcome**, *Heart*, 92(6), 840-842, June 2006.
112. Heard NA, Holmes CC, and Stephens DA, **A quantitative study of gene regulation involved in the immune response of anopheline mosquitoes: an application of Bayesian hierarchical clustering of curves**, *Journal of the American Statistical Association*, 101(1), 18 – 29, 2006.
113. McManus KJ, Stephens DA, Adams NM, Islam SA, Freemont PS, and Hendzel MJ, **The transcriptional regulator CBP has defined spatial associations within interphase nuclei**, *PLoS Computational Biology*, 2(10), e139, 2006.
114. Jasra A, Stephens DA, Gallagher KL, and Holmes CC, **Bayesian Mixture Modelling in Geochronology via Markov chain Monte Carlo,** *Mathematical Geology*, 38(3), 269-300, April 2006.
115. Heard NA, Holmes CC, Stephens DA, Hand DJ, and Dimopoulos G, **Bayesian co-clustering of gene expression profiles from multiple parallel immune defence challenges,** *Proceedings of the National Academy of Sciences of the United States of America*, 102(47), 16939-16944, November 2005.
116. Jasra A, Holmes CC, and Stephens DA, **Markov chain Monte Carlo methods and the label switching problem in Bayesian mixture modeling**, *Statistical Science*, 20, 50 - 67, 0883-4237, 2005.

117. Stewart CE, Fielder AR, Stephens DA, et al., **Treatment of unilateral amblyopia: factors influencing visual outcome**, *Investigative Ophthalmology & Visual Science*, 46, 3152 - 3160, ISSN: 0146-0404, 2005.
118. Stephens DA and Crowder M, **Bayesian analysis of discrete time warranty data**, *Journal of the Royal Statistical Society Series C - Applied Statistics*, 53, 195 - 217, ISSN: 0035-9254, 2004.
119. Stephens DA, Crowder MJ, and Dellaportas P, **Quantification of automobile insurance liability: a Bayesian failure time approach**, *Insurance Mathematics & Economics*, 34, 1 - 21, ISSN: 0167-6687, 2004.
120. McCoy EJ and Stephens DA, **Bayesian time series analysis of periodic behaviour and spectral structure**, *International Journal of Forecasting*, 20, 713 - 730, ISSN: 0169-2070, 2004.
121. Olhede SC, McCoy EJ, and Stephens DA, **Large-sample properties of the periodogram estimator of seasonally persistent processes**, *Biometrika*, 91, 613 - 628, ISSN: 0006-3444, 2004.
122. Stewart CE, Moseley MJ, Fielder AR, and Stephens DA, **Refractive adaptation in amblyopia: quantification of effect and implications for practice**, *British Journal of Ophthalmology*, 88, 1552 - 1556, ISSN: 0007-1161, 2004.
123. Stewart CE, Moseley MJ, Stephens DA, et al., **Treatment dose-response in amblyopia therapy: the Monitored Occlusion Treatment of Amblyopia Study (MOTAS)**, *Investigative Ophthalmology & Visual Science*, 45, 3048 - 3054, ISSN: 0146-0404, 2004.
124. Stewart CE, Moseley MJ, Fielder AR, and Stephens DA, **Optimization of the dose-response of occlusion therapy for amblyopia: the ROTAS study (E-abstract 2579)**, *Investigative Ophthalmology & Visual Science*, 45, ISSN: 0146-0404, 2004.
125. Kong WM, Martin NM, Smith KL, et al., **Triiodothyronine stimulates food intake via the hypothalamic ventromedial nucleus independent of changes in energy expenditure**, *Endocrinology*, 145, 5252 - 5258, ISSN: 0013-7227, 2004.
126. Mikhail GW et al., **Clinical and haemodynamic effects of sildenafil in pulmonary hypertension: acute and mid-term effects,** *European Heart Journal*, 25(5), 431-436, 2004.
127. Crowder M and Stephens D, **On the analysis of quasi-life tables**, *Lifetime Data Analysis*, 9, 345 - 355, ISSN: 1380-7870, 2003.
128. Kong WM, Stanley S, Gardiner J, et al., **A role for arcuate cocaine and amphetamine regulated transcript in hyperphagia, thermogenesis, and cold adaptation**, *FASEB Journal*, 17, 1688 - 1690, ISSN: 0892-6638, 2003.
129. Stewart CE, Fielder AR, Stephens DA, et al., **Design of the Monitored Occlusion Treatment of Amblyopia Study (MOTAS)**, *British Journal of Ophthalmology*, 86, 915 - 919, ISSN: 0007-1161, 2002.
130. Moskovic R, Jordinson C, Stephens DA, et al., **A Bayesian analysis of the influence of neutron irradiation on embrittlement in ferritic submerged arc weld metal**, *Metallurgical and Materials Transactions A-Physical Metallurgy and Materials Science*, 31, 445 - 459, ISSN: 1073-5623, 2000.
131. Rahman NJ, Wakefield JC, Stephens DA, et al., **The Bayesian analysis of a pivotal pharmacokinetic study**, *Statistical Methods in Medical Research*, 8, 195 - 216, 1999.
132. Walker SG and Stephens DA, **A multivariate family of distributions on $(0, \infty)^p$**, *Biometrika*, 86, 703 - 709, ISSN: 0006-3444, 1999.
133. Stephens DA and Fisch RD, **Bayesian analysis of quantitative trait locus data using reversible jump Markov chain Monte Carlo**, *Biometrics*, 54, 1334 - 1347, ISSN: 0006-341X, 1998.
134. Sullivan P, Stephens DA, Ansari T, et al., **Variation in the measurements of basement membrane thickness and inflammatory cell number in bronchial biopsies**, *European Respiratory Journal*, 12, 811 - 815, ISSN: 0903-1936, 1998.

135. Stephens DA, Smith AFM, and Moskovic R, **Charpy impact energy data: a Markov chain Monte Carlo analysis**, *Journal of the Royal Statistical Society Series C-Applied Statistics*, 46, 477 - 492, ISSN: 0035-9254, 1997.
136. Smith CAB and Stephens DA, **Estimating linkage heterogeneity**, *Annals of Human Genetics*, 60, 161 - 169, ISSN: 0003-4800, 1996.
137. Dellaportas P and Stephens DA, **Bayesian-analysis of errors-in-variables regression models**, *Biometrics*, 51, 1085 - 1095, ISSN: 0006-341X, 1995.
138. Smith CAB and Stephens DA, **Estimating multipoint recombination fractions**, *Annals of Human Genetics*, 59, 307 - 321, ISSN: 0003-4800, 1995.
139. Stephens DA, **Bayesian retrospective multiple-changepoint identification**, *Journal of the Royal Statistical Society Series C (Applied Statistics)*, 43, 159 - 178, ISSN: 0035-9254, 1994.
140. Buck CE, Litton CD, and Stephens DA, **Detecting a change in the shape of a prehistoric corbelled tomb**, *The Statistician*, 42, 483 - 490, ISSN: 0039-0526, 1993.
141. Stephens DA and Smith AFM, **Bayesian inference in multipoint gene-mapping**, *Annals of Human Genetics*, 57, 65 - 82, ISSN: 0003-4800, 1993.
142. Stephens DA and Smith AFM**, Sampling - Resampling Techniques for the Computation of Posterior Densities in Normal Means problems**, *Test*, 1(1), 1 – 18, 1992.

Papers in Revision & Papers Submitted/Under Review:

S1 **Semi-parametric Bayesian inference under Neyman orthogonality**, M Sabbagh, DA Stephens, arXiv preprint arXiv:2602.20371, 2026
S2 **Posterior Uncertainty for Targeted Parameters in Bayesian Bootstrap Procedures**, M Sabbagh, DA Stephens, arXiv preprint arXiv:2602.02216, 2026
S3 **Incorporating Partial Adherence for Estimation of Dynamic Treatment Regimes**, C Si, DA Stephens, EEM Moodie, arXiv preprint arXiv:2512.10069, 2025
S4 **Individualized treatment regimens under correlated data with multiple outcomes**, M Dolmatov, EEM Moodie, DA Stephens, D Bandyopadhyay, arXiv preprint arXiv:2509.22905, 2025
S5 **Multivariate regression with missing response data for modelling regional DNA methylation QTLs**, S Alam, Y Zeng, S Bernatsky, M Hudson, I Colmegna, DA Stephens, ...arXiv preprint arXiv:2507.05990
S6 Wu, H, Stephens, DA, Moodie, EEM, **An Efficient Bayesian Data Augmentation Algorithm for Continuous-time Stochastic Epidemic Models Fit to Partially Observed Incidence Data,** in submission after 1st revision, February 2026
S7 Luo Y, Stephens DA, Graham DJ, McCoy EJ, **Bayesian doubly robust causal inference via loss** functions, in revision, https://arxiv.org/abs/2103.04086, March 2025.
S8 Alie, R, Stephens, DA and AM Schmidt, **On Data Augmentation in Point Process Models Based on Thinning** arXiv preprint arXiv:2203.06743, 2024 https://arxiv.org/pdf/2203.06743.pdf
S9 Alie, R, Stephens, DA and AM Schmidt, **Computational Considerations for the Linear Model of Coregionalization,** in revision (after Major Revision, May 2024), *Journal of Computational and Graphical Statistics*, arXiv preprint arXiv:2402.08877, 2024 https://arxiv.org/pdf/2402.08877.pdf

Discussions:

1. Moodie EEM, and Stephens DA**, Commentary on "The Statistician in Medicine" by Professor Sir Austin Bradford Hill,** *Statistics in Medicine* **40** (1), 37-41, 2022.

2. Moodie EEM, and Stephens DA, **Comment: Clarifying Endogenous Data Structures and Consequent Modelling Choices Using Causal Graphs**, discussion of 'Linear mixed models with endogenous covariates: Modeling sequential treatment effects with application to a mobile health study', by Qian et al, *Statistical Science*, 35(3), 391-393, 2020.
3. Wallace MP, Moodie EEM, and Stephens DA, Discussion of '**Personalized dose finding using outcome weighted learning'** by Kosorok et al., *Journal of the American Statistical Association,* 111 (516), 1530 – 1534, September 2017.
4. Stephens DA**, Discussion of "Deductive derivation and Turing-computerization of semiparametric efficient estimation"** by Frangakis et al., *Biometrics*, 71 (4), 880-880, 2015.

Books:

1. Damien P, Dellaportas P, Polson NG, and Stephens DA, **Bayesian Theory and Applications**, Oxford University Press, 2012.
2. Adams NM, Crowder MJ, Hand DJ, and Stephens DA, **Methods and models in statistics: in honour of Professor John Nelder**, **FRS**, London, Imperial College Press, ISBN: 1-8609-4463-9, 2004.

Chapters in Books:

1. Stephens, DA, **Constructing and Evaluating Optimal Treatment Sequences: An Introductory Guide for Bayesians**, Chapter 7 (25 pages), in *Handbook of Statistical Methods for Precision Medicine*, (eds Eric B. Laber, Bibhas Chakraborty, Erica E. M. Moodie, Tianxi Cai, Mark van der Laan), Chapman and Hall/CRC Press, New York, 2024.
2. De Iorio M, Ebbels TMD, and Stephens DA, **Statistical Methods in Metabolomics**, *Handbook of Statistical Genetics,* 3rd Edition, 2019
3. Khalili A, Chen J, and Stephens DA, **Regularization in regime-switching Gaussian autoregressive models**, in *Advanced Statistical Methods in Data Science* (eds Chen D-G et al.), Chapter 2, 13—34, Springer, Singapore, September 2016.
4. Stephens DA, **G-estimation for dynamic treatment regimes in the longitudinal setting,** in *Adaptive Treatment Strategies in Practice: Planning Trials and Analyzing Data for Personalized Medicine* (eds Kosorok MR and Moodie EEM), Chapter 7, 89-117, ASA-SIAM Series on Statistics and Applied Mathematics, http://dx.doi.org/10.1137/1.9781611974188.ch7, December 2015.
5. Griffin JE and Stephens DA, **Advances in Markov chain Monte Carlo**, in *Bayesian Theory and Applications* (eds Damien P et al.), Oxford University Press, 2012.
6. Powers LJ, Nešlehová J, and Stephens DA, **American Options in an infinite activity Lévy market: Monte Carlo and deterministic approaches using a diffusion approximation**, in *Numerical Methods in Finance* (eds Carmona RA, Del Moral P, Hu P, and Oudjane N), Springer Proceedings in Mathematics, 12(2), 291 - 321, doi: 10.1007/978-3-642-25746-9_9, Springer, 2012.
7. Umande PP and Stephens DA, **Spatial Point Process Analysis of Promyelocytic leukemia nuclear bodies**, in *Advances in Nuclear Architecture* (eds Adams NM and Freemont P), Springer, Chapter 2, 59 - 85, 2011.
8. Russell RA, Adams NM, Stephens DA, Batty E, Jensen K, and Freemont PS, **Methodology for Quantitative Analysis of 3-D Nuclear Architecture**, in *Advances in Nuclear Architecture* (eds Adams NM and Freemont P), Springer, Chapter 2, 173-187, 2011.

9. Stephens DA, **Complexity in Systems Level Biology and Genetics: Statistical Perspectives**, *Handbook of Complexity*, Springer, 2009.
10. De Iorio M, Ebbels TMD, and Stephens DA, **Statistical Techniques in Metabolic Profiling**, to appear in *Handbook of Statistical Genetics,* 3rd Edition, 2007.
11. Stephens DA, **Statistical approaches to genetic mapping**, in *Highly structured stochastic systems* (eds Green PJ, Hjort NL, and Richardson S), Oxford, Oxford University Press, 386 - 392, ISBN: 0-1985-1055-1, 2003.
12. Wakefield JC and Stephens DA, **Bayesian errors-in-variables modeling**, in *Bayesian Analysis of Generalised Linear Models* (eds Dey DK et al.), 2000.
13. Smith CAB and Stephens DA, **Simple likelihood and probability calculations for linkage analysis**, in *Genetic Mapping of Disease Genes*, Academic Press, London, 1997.
14. Guttmann I, Dellaportas P, Stephens DA, and Smith AFM, **A Comparative Study in Perinatal Mortality using a Two Component Mixture Model**, in *Bayesian Biostatistics* (eds Berry DA and Stangl DK), Marcel Dekker, New York, 1995.
15. Stephens DA and Dellaportas P, **Bayesian Analysis of Generalised Linear Models with Covariate Measurement Error**, in *Bayesian Statistics 4* (eds Bernardo JM et al.), Clarendon Press, Oxford, UK, 813-820, 1994.
16. Stephens DA and Smith AFM, **Bayesian Edge-Detection in Images via Changepoint Methods**, *Computing Intensive Methods in Statistics* (eds Hardie W and Simar J), Physica-Verlag, Heidelberg, 1 – 29, 1993.

Interviews:

1. Dellaportas, P and Stephens, DA, **Interview with Professor Adrian FM Smith**. *International Statistical Review*, 88: 265-279. https://doi.org/10.1111/insr.12395, 2020.

Graduate Supervision
Completed through March 2026

PhD Supervision:

1. Reem Al-Jaralla (2001)
2. John Gay (2002)
3. Nokuthaba Sibanda (2003)
4. Wantanee Surapatoolkorn (2004)
5. Matthew Gander (2004)
6. Ajay Jasra (2005, joint with Chris Holmes)
7. Georgia Tsiliki (2007, joint with Maria De Iorio)
8. Kitty Platanioti (2008, joint with Emma McCoy)
9. Philip Umande (2008, joint with Niall Adams)
10. Tso-Jung Yen (2008, joint with Nick Heard)
11. Wing Yip (2008, joint with Sofia Olhede)
12. Richard Russell (2010, joint with Niall Adams and Paul Freemont)
13. Chris Oduneye (2011, joint with Ajay Jasra)
14. Ashkan Ertefaie (2011, joint with Masoud Asgharian)
15. Amaan Mehrabian (2011)
16. Ben Rich (2012, joint with Erica Moodie)
17. Dan Graham (2012, joint with Emma McCoy, Imperial College)

18. Shujie Li (2013, joint with James Hanley)
19. Elena Rivera Mancia (2013, joint with Johanna Nešlehová)
20. Annaliza McGillivray (2016, joint with Abbas Khalili)
21. Luc Villandre (2017, joint with Aurelie Labbe)
22. Mohamad Elmasri (2017)
23. Yu Luo (2019, joint with David Buckeridge)
24. James McVittie (2021, joint with David Wolfson)
25. Vivian Meng (2021)
26. Daniel Rodriguez Duque (2022, joint with Erica Moodie)
27. Shomoita Alam (2023, joint with Archer (Yi) Yang)
28. Armando Turchetta (2023, joint with Erica Moodie)
29. Renaud Alie (2024, joint with Alex Schmidt)
30. Jiajun Mai (2025)
31. Elio Abi Younes (2026)
32. Haoyu Wu (2026, joint with Erica Moodie)
33. Magid Sabbagh (2026)
34. Zayd Omar (2026)

Masters Supervision

1. Mike Bottone (MPhil, 2010, co supervised with Ajay Jasra)
2. Sudipta Sadhukhan (MSc, 2011)
3. Tigran Atoyan (MSc, 2011)
4. Quan Zhou (MSc, 2012)
5. Erin Lundy (MSc, 2012, joint with David Wolfson)
6. Huijun Chen (MSc, 2012, joint with Christian Genest)
7. Vanessa Bergeron-Laperriere (MSc, 2014)
8. Wendy Weng (MSc, 2015)
9. Isabelle Grenier (MSc, 2016, joint with Abbas Khalili)
10. Hao Zhang (MSc, 2016, joint with Erica Moodie)
11. Shouao Wang (MSc, 2017, joint with Erica Moodie)
12. James McVittie (MSc, 2017, joint with David Wolfson)
13. Yiu-Sing Lau (MSc, 2018)
14. Mengtian Zhang (MSc, 2018)
15. Magid Sabbagh (MA, 2019, joint with Christian Genest)
16. Zayd Omar (MSc, 2019, joint with Alexandra Schmidt)
17. Jiajun Mai (MSc, 2019)
18. Elio Abi Younes (MSc, 2020)
19. Ayoub El hanchi (MSc, 2020)
20. David Fleischer (MSc, 2020, joint with Yi Yang)
21. Hovzep Mazakian (MSc, 2021)
22. Sameera Sheikh-Jilani (MSc, 2021, joint with Russ Steele)
23. Alicia ter-Cheam (MSc, 2021)
24. Peiyuan Huang (MSc, 2022)
25. Olivia Shi (MSc, 2022, joint with Christian Genest)
26. Lucas Bennett (MSc, 2023)

27. Yanfei Qu (2025)
28. Daniel Krasnov (2026)
29. Edmund Wu (2026)

Current Students at McGill:

- David Fleischer (PhD, Year 7, joint with Archer (Yi) Yang)
- Hovzep Mazakian (PhD, Year 6, joint with Masoud Asgharian)
- Alicia ter-Cheam (PhD, Year 6)
- Peiyuan Huang (PhD, Year 6)
- Jingrui Mu (PhD, Year 6, joint with Abbas Khalili)
- Mame Diarra Toure (PhD, Year 5)
- Andrew Rambidis (PhD, Year 5, joint with Russ Steele)
- Renjie Peng (PhD, Year 5 joint with Christian Genest)
- David Garfinkle (Masters, on leave)
- Melodie Song (PhD, Year 4, joint with Abbas Khalili)
- Yanfei Qu (PhD, Year 3)
- Chloe Si (PhD, Year 3, joint with Erica Moodie)
- Lillian Yuan (PhD, Year 3, joint with Erica Moodie)
- Misha Dolmatov (PhD, Year 3, joint with Erica Moodie)
- Mila Pourali (PhD, Year 2)
- Zehai Wen (PhD, Year 2)

Postdoctoral Supervision

- Vivian Meng (January-December 2022): Current position: sessional lecturer, University of British Columbia.
- Yu Luo (2019-2020, joint with David Buckeridge). Lecturer (equivalent to Assistant Professor), Department of Mathematics, Kings College London.
- Levon Nurbekyan (2018-2019, joint with Adam Oberman) Current position: postdoctoral fellow, Department of Mathematics, UCLA.
- Leila Golparvar (2015-2021, joint with Robert Platt; on leave 2016-17 and 2018-19). Current position: senior analyst, Statistics Canada, Ottawa.
- Farhad Shokoohi (2015-2016, joint with Aurelie Labbe). Current position: Assistant Professor University of Las Vegas, United States.
- Michael Wallace (2014-2016, joint with Erica Moodie). Current position: Assistant Professor, Department of Statistics and Actuarial Science, University of Waterloo
- Irene Vrbik (2014-2016). Current position: Assistant Professor, University of British Columbia, Okanagan.
- Olli Saarela (2011-2012, joint with Erica Moodie). Current position: Associate Professor in the Department of Biostatistics, University of Toronto.
- Will Astle (2011-2012, joint with Aurelie Labbe). Current position: Research Associate at University of Cambridge, UK.
- Vahid Partovi Nia (2009-2011). Current position: Noah's Ark Lab, Huawei Technologies Canada, Montreal.

Teaching Experience

Undergraduate:
Year 1: Probability and Statistics I (1998-2000)
Year 2: Probability and Statistics II (1996-2005)
Year 3: Biostatistics (2003-2005)
Advanced Statistical Theory (2003-2005)
Ancillary: Statistics to Engineering Students

Principles of Statistics 2 (MATH 204, 2007-10, 2013. 2026)
Probability (Math 323, Fall 2018, Fall 2021)
Principles of Statistics 1 (MATH 203, Fall 2024)

Graduate:
MSc Bioinformatics (2001-2005) (Course Convenor for Mathematics module)
Mathematical Statistics I MATH 556 (2006-8, 2014, 2019, 2022)
Mathematical Statistics II MATH 557 (2008, 2010, 2017)
Honours Regression and Analysis of Variance MATH 423/533 (2014-16)
Generalized Linear Models MATH 523 (2011-13)
Bayesian Theory and Methods MATH 559 (2023, 2026)
Introduction to Time Series Analysis MATH 545 (2012, 2017, 2025)
Topics in Statistics: Mathematical Statistics 3 (2021)
Topics in Statistics: Introduction to Causal Inference (2018, 2021, 2024)
Topics in Statistics: Bayesian Inference and Computation (2019, 2020)
Time Series Analysis MATH 681 (2007, 2009, 2011)
Computation Intensive Statistics MATH 680 (2010, 2015)
Statistical Learning and Modern Multivariate Analysis MATH 783 (2011)
Reading Course: Introduction to Causal Inference (2026)
Reading Course: Functional data analysis (2025)
Reading Course: Flow-based models and adversarial learning (2023)
Reading Course: Multi-state models and Competing Risks (2022)
Reading Course: Causal Inference (2020)
Reading Course: Mathematical Theory of Bayesian Statistics (2020)
Reading Course: Diffusion-based Monte Carlo, Gradient Flow, and Optimal Transport (2020)
Reading Course: Bayesian Nonparametrics (2008, 2010)
Reading Course: Continuous Time Finance (2010)
Reading Course: Time Series Analysis (2010, 2017, 2018)
Reading Course: Asymptotic Statistics (2013)
Reading Course: Multivariate Analysis (2011)

Grants

1. MITACS Accelerate: **Low-Rank Bayesian Neural Networks for Self-Supervised Time Series Foundation Models** (industry partner Hydro Quebec), CAD $30,000 May 2026-Jan 2027
2. FRQNT: Programme Samuel-de-Champlain concours 2026-2027, **Intégration de l'apprentissage automatique et du paradigme bayésien à la méthodologie des essais cliniques,** CAD $29, 360 (co PI with Erica EM Moodie), March 2026-April 2027.
3. NSERC: Discovery Grant, **Generalizing Bayes: Prior to Posterior updating within and beyond the Bayesian framework** (5 x CAD $67,000 = CAD $335,000, 2024-2029)
4. FRQNT Team Grant, **Apprentissage statistique intégratif sur des ensembles de données et des études Hétérogènes**, (CAD 3 x 50K = $150,000, 2023-2026, co-Investigator, with 4 others).
5. IVADO Fundamental Research, **Statistical modelling of health trajectories and interventions** (CAD $216,000, Sep 2020-August 2023, Principal Investigator, with 4 others).
6. NSERC: Discovery Grant, **Bayesian methods for partially specified models** (6 x CAD $57,000 = CAD $342,000, 2018-2024, renewed with one year COVID-19 extension in 2022)
7. FRQNT: Team Grant, **Méthodes d'inférence causale et la prise de décision dans un cadre bayésien,** (3 x 51K = $153,000, 2018-2021, Principal Investigator, joint with four others)
8. Healthy Brains for Health Lives (McGill CFREF): Innovative Ideas Program, **Optimal Transportation and Bayesian methods for Machine Learning** (2 x 76K = $152,000 CAD, co-Principal Investigator with Adam Oberman)
9. CIHR: Project Grant, **Developing Longitudinal Indicators for Population-Scale Monitoring of Health Care Trajectories** (Co Principal Investigator, with five others, CAD $180,000 Jul 2016-Jun 2019)
10. MITACS Accelerate: **Predicting Premia in the Canadian Auto-insurance market** (industry partner TD Assurance, Montreal), CAD $15,000 Jan-May 2016
11. FRQNT: Programme bilatéral de recherche collaborative Québec-Flandre, **Modèle de simulation fondé sur des données phylogénétiques, épidémiologiques et démographiques pour informer des stratégies de contrôle concernant les virus de l'hépatite C et du VIH-1 dans les populations vulnérables au Québec et en Belgique,** 2 x CAD $111,760 = CAD $223,420, Jan 2016 – Dec 2017 (co Principal Investigator with Bluma Brenner, Jewish General Hospital, Montreal; my portion was 50% of the total)
12. NSERC: Discovery Grant, **Bayesian methods for confounding adjustment and causality** (5 x CAD $34,750 = CAD $173,750, 2013-2018)
13. NSERC: Discovery Accelerator Supplement (3 x CAD $40,000 = CAD $120,000, 2013-2016)
14. CIHR: Open Operating Grant, **Computational methods phylogenetics clustering for HIV/HCV viral DNA sequences** (Principal Investigator: CAD $293,000, 2013-2016, joint with 4 others)
15. FQRNT Team Grant: **Outils et méthodes statistiques pour déchiffrer les réseaux génétiques régulatoires de traits et maladies complexes** (Apr 2011-Mar 2014, CAD $159,000), joint with 2 others
16. NIH, US: **HIV Risk Dynamics, Genetic Patterns, and Control** (Jul 2008-Jun 2013, USD $243,4265 estimated total, 10% salary CAD $27,000), with 8 others; Prof. James Koopman (University of Michigan), PI
17. FQRNT Team Grant: **Méthodes statistiques pour les études multiniveaux** (Apr 2008-Mar 2011, CAD $146,800), joint with 8 others
18. NSERC: Discovery Grant, **Bayesian Methods in Bioinformatics and Finance** (Apr 2007-Mar 2012, CAD $110,000)

19. NSERC: Discovery Accelerator Supplement (Apr 2007-Mar 2012, CAD $120,000)
20. Biotechnology and Biological Sciences Research Council, UK: **Bayesian methods for modelling and integrating metabolic data** (Jan 2008-Dec 2011, GBP £550,000/CAD $1,200,000), with Sylvia Richardson, Jeremy Nicholson, Maria De Iorio, and Tim E Ebbels
21. Medical Research Council, UK: Capacity Building PhD studentships, **Bayesian methods in Metabonomics** (Oct 2005-Sep 2009, GBP £120,000/CAD $240,000), with Maria De Iorio and Tim E Ebbels
22. Medical Research Council, UK: Capacity Building PhD studentship, **Computational analysis of the spatial distribution of mammalian cell nuclei** (Oct 2005-Sep 2009, GBP £120,000/CAD $240,000), with Professor Paul Freemont and two others
23. Biotechnology and Biological Sciences Research Council, UK: PhD studentship program, **Simulation-based analysis of the spatial distribution of mammalian cell nuclei** (Oct 2005-Sep 2008, GBP £80,000/ CAD $160,000), with Professor Paul Freemont and two others
24. Fight for Sight Charity: **Occlusion therapy in Amblyopia**: **A Randomized Trial** (Oct 2001-03, GBP £110,000/CAD $220,000), joint with Alistair Fielder and Merrick Moseley
25. Wellcome Trust: **Statistical Methods in Bioinformatics** (Mar 2002-04, GBP £150,000/CAD $300,000), joint with David Hand and Chris Holmes

Conference Organization and Participation

Conferences Organized

- **June 2018: Four-week short programme "Causal inference in the presence of dependence and network structure: modelling strategies and model selection"** at the CRM, June 11-July 6, 2018. The CRM contributed $52,000 towards the meeting. Financial support was also provided by CANSSI ($12,000) and PIMS ($4,500).
- **December 2017: CRM conference on Risk in the Health Sciences** (co-organized with Erica EM Moodie, Dan Graham, and Nick Jewell)
- **July 2016: CRM conference and one-month workshop in causal inference and genetics** (co-organized with Erica EM Moodie)
- **June 2011: Hierarchical models and Markov chain Monte Carlo: Conference in Honour of Professor AFM Smith** (co-organized with five others), Crete, Greece
- **May 2011: Statistical Methods in HIV** (co-organized with Erica EM Moodie), CRM Montreal, 37 participants
- **June 2010: Summer School in Statistics and Probability** (co-organized with colleagues in the Department), 22 participants at senior undergraduate and junior graduate level
- **May 2009: BIRS 5-day Workshop Causal Inference in Statistics and the Quantitative Sciences** (co-organized with Erica EM Moodie), 42 participants at Banff International Research Station
- **October 2008: One-day Workshop "MCMC: Theory and Applications" CRM Montreal,** six speakers at Université Sherbrooke
- **December 2005: Workshop on Stochastic Volatility, Institute for Mathematical Sciences, Imperial College London**. This one-day conference involved around 40 participants and eight top researchers in the field of statistical aspects of stochastic volatility modelling in finance.
- **March 2004**: **Meeting in Honour of Professor John Nelder on the occasion of his 80th Birthday, Imperial College London.** This two-day meeting involved 70 participants and ten speakers of

international renown, including Sir David Cox, Professor Brian Ripley, Professor Rosemary Bailey, and Professor Yudi Pawitan.

Workshops/Invited Short Courses Given:

- *Propensity Score Method, Models and Adjustment,* Summer Institutes in Clinical & Epidemiological Research, University of Washington, Department of Biostatistics, School of Public Health, USA (2014-2025)
- *An Introduction to Causal Inference*, University of Toronto, Department of Biostatistics, Dalla Lana School of Public Health (May 2016)
- *Propensity Score Models, Methods and Adjustment,* Statistical Society of Canada Meeting, Halifax, Nova Scotia (2015)

Older courses:

- *Bayesian Statistical Methods* (Qinetiq PLC, 2002)
- *Use of Statistics in Research* (Imperial College London 2003-2004)
- *Statistical Analysis of Microarray Data (*International Biometric Society Conference (IBS-EMR), Corfu, Greece (2005)
- *Bioinformatics and Statistical Genetics* (MSc, University of Athens, Department of Statistics)
- *Statistical Analysis using R (*Imperial College London, 2006)
- *Statistical Modelling and Inference in Finance and Econometrics (*GSA Capital, London, 2005-2006*)*
- *Statistical Analysis of Microarray Data using R* (Imperial College London, 2006)
- Courses in Statistical Methods for GSEPS graduate school at Imperial College

Recent Invited Seminars/Conference Talks (2006/2025)

- Invited Speaker: Greek Stochastics, Folegandros, Greece, 'Semiparametric Bayesian inference for
- optimal dynamic treatment regimes. via dynamic marginal structural models' (July 2024)
- Keynote speaker: Greek Stochastics 'nu', Naxos, Greece, 'What is Bayesian about Bayesian analysis? (Part I and Part II)', (July 2023).
- Keynote speaker (Gold Medal Address): Statistical Society of Canada Annual Meeting, Ottawa, ON, 'What is Bayesian about Bayesian analysis?' (May 2023).
- Keynote speaker: ISBA World Meeting, Montreal, "Bayes(ish) estimates for the linear(ish) model" (June 2022).
- Keynote speaker: Statistics 2021, Concordia University, Montreal, "Bayesian inference for partially specified models" (July 2021).
- Keynote speaker: SMAC 2021: Statistiques, philosophie et santé, Cancéropôle Grand Sud-Ouest, Universite de Bordeaux "Bayesian methods in health data analysis" (June 2021)
- Invited speaker: Statistical Society of Canada Annual Meeting, Montreal QC, "Phylogenetic and Phylodynamic analysis of HIV infection in Montreal" (June 2018)
- Invited speaker: Statistical Society of Canada Annual Meeting, Winnipeg MB, "G-estimation and Model Selection" (June 2017)
- Invited speaker: iLike Workshop, Lancaster, UK, "Hidden Markov models and methylation sequencing: Modelling and computation strategies" (June 2016)
- Invited speaker: Statistical Society of Canada Annual Meeting, Brock ON, "Hidden Markov Models for Identifying Differentially Methylated Regions: Investigation of the BLK gene region" (May 2016)

- Invited speaker: High-dimensional Data Analysis IV Workshop (BIRS, Banff, AB, August 2014): "Bayesian methods for reconstructing metabolomics spectra"
- Invited speaker: International Biometric Society World Meeting (Florence, Italy, July 2014): "Bayesian methods for reconstructing metabolomic spectra"
- Invited speaker: Statistical Society of Canada Meeting (Toronto), May 2014: "New Directions in Causal Inference"
- Invited speaker: UK Causal Inference Meeting (Cambridge, UK), April 2014: "Bayesian Methods in Causal Inference – A Lack of Success Story"
- Joint Statistical Meetings (JSM – August 2013): *Marginal Structural Competing Risk Models Analysis of the Canadian HIV/HCV Co-infection Cohort Data* (Montreal, Quebec – international meeting of the statistical professional societies)
- BIRS workshop on high-throughput genetics (Banff, Alberta), August 2013: "*Statistical Analysis of Methylation Profiles via Biosulphite Sequencing Investigation of the BLK gene region"*
- CIHR Human Genetics Workshop (L'esterel, Quebec) April 2013: "Computational and statistical approaches for understanding nuclear organization*"*
- High-dimensional Data Analysis III Workshop (UBC, Vancouver, BC), May 2013: ``Causal adjustment procedures for high-dimensional confounders*"*
- Statistics 2011 (Concordia, Montreal), July 2011:
  - "Particle MCMC methods"
  - "Bayesian phylogenetic methods for HIV surveillance in Quebec"
- Statistical Society of Canada Meeting (Acadia), May 2011: "Particle MCMC methods"
- Statistical Society of Canada Meeting (Quebec City), May 2010: "Markov chain Monte Carlo for Markov chain macro data"
- Department of Mathematics and Statistics, Université Laval, March 2010: "Propensity Score methods in Causal Inference: beyond the binary treatment case"
- Canadian Mathematical Society, Winter Conference, Windsor, December 2009: Invited speaker, Mathematical Statistics session "Bayesian nonparametric two-sample testing"
- Department of Statistics, University of Toronto, February 2009: "Bayesian methods in causal inference: using the Generalized Propensity Score"
- Department of Mathematics, Imperial College London, December 2008: "Bayesian perspectives in causal inference"
- MD Anderson Cancer Center, Houston, TX, US (September 2007)
- CRM Colloque, Université de Montreal, Montreal, Canada (September 2007)
- Invited Fellow, Bayesian Nonparametric Regression Workshop, Isaac Newton Institute, Cambridge, UK (August 2007)
- *MCMC and Bioinformatics, Bridging the Gap*. BIRS Workshop, Banff, Canada (July 2007)
- *Statistical Genomics in Canada.* BIRS Workshop, Banff, Canada (July 2007)
- Joint Statistical Meeting: Session on Developments in Computation in Bioinformatics, Seattle, Washington, US (August 2006)
- Workshop on Developments in Computation in Bioinformatics: Department of Statistics, University of British Columbia, Canada (August 2006)
- Conference on Developments in Bayesian Computation, Department of Statistics, University of Warwick, UK (August 2006)
- Contributed Talk, IBS Meeting in Montreal, Canada (July 2006)

Professional activities

- **Associate Editor, *Bayesian Analysis*** (October 2016-December 2021)
- **Editor-in-Chief, *The Canadian Journal of Statistics* (**January 2013-December 2015**)**
- **Associate Editor, *The Canadian Journal of Statistics*** (January 2007-December 2012, January 2016-December 2022)
- **Editor, *STAT* (**August 2012-present**)**
- **Editor, *International Journal of Biostatistics*** (April 2010-present)
- **Statistical Society of Canada: Provincial Representative Quebec** (2008-2011)
- **NSERC Discovery Grant Committee Member Statistical Sciences (GSC-14/1508)** (July 2008-June 2012), **Statistics co-chair for 2011 and 2012.**
- **CIHR, Clinical Trials Project Grants, March 2023-present**
- **Canadian Statistical Sciences Institute (CANSSI):** CRM representative on the scientific advisory board (2017-2021)

Administrative duties and other contributions

At McGill

- **Vice-Dean, Faculty of Science** (March 2019-March 2025)
- **Provost's Advisory Committee, Dean of Engineering** (Fall 2022-Spring 2023)
- **Provost's Advisory Committee, Dean of Management** (Fall 2020-Spring 2021)
- **Provost's Advisory Committee, Dean of Libraries** (Fall 2019)
- **Provost's Advisory Committee, Dean of Engineering** (Fall 2009)
- **Senate, McGill University (**July 2015-August 2021, August 2023-present**)**
  Senate Nominating Committee (September 2023-present)
  Senate Steering Committee (October 2024-present)
- **University Tenure Committee** (2014-2017)

- **Chair, Department of Mathematics and Statistics** (June 2015-March 2019)
- **Chair's Advisory Committee, Department of Mathematics and Statistics** (September 2006-2015)
- **Graduate Affairs Committee, Department of Mathematics and Statistics** (September 2006-2008, May 2013-May 2015)
- **Statistics Working Group, Department of Mathematics and Statistics** (from November 2006)
- **Chair, Probability Search Committee** (November 2006-March 2007, September 2007-March 2008, October 2008-March 2009)
- **Chair, Statistics Search Committee** (September 2008-March 2009)
- **Chair, Statistics Search Committee** (September 2014-March 2015)
- **Departmental Planning Committee** (June 2007-April 2008)

- **Gairdner Day presentation in Faculty of Science outreach day** (Fall 2009)
- **Freshman Interest Group leader** (Fall 2010, Fall 2011, Fall 2012)

- **Labour Relations Committee:** AMURE negotiation (June 2019-April 2023)
- **Labour Relations Committee:** MCLIU negotiation (October 2022-December 2023)

- **Web Advisory Committee:** June 2020-December 2023.
- **Subcommittee on Courses and Teaching Programs (SCTP):** October 2023-present.

At Imperial College

- Department Undergraduate Course Committee (1 year)
- Department Examinations Committee (2 years)
- Department Examination Liaison Panel (8 years)
- Statistics Section Research Assessment Exercise (RAE) Panel (1/2 year)
- Bioinformatics MSc Management Committee (5 years)
- Mathematics Department Database Manager (2000-2003)
- Postgraduate Admissions Tutor (Statistics Section) (1998-2004)
- Postgraduate Course Committee (2000-2004)
- Advanced Lectures in Statistics (Statistics Section): (2003-4) Course Organizer