
Publication List

(Research Group Members Shown in Italics)

Submitted Articles

106. ***C. Ward***, **R. Deardon** & A. Schmidt "Multivariable behavioural change modelling of epidemics in the presence of undetected infections" submitted to *Statistics in Medicine* (revision requested). https://arxiv.org/abs/2503.00982

105. ***M. Mahsin***, W. Almutiry & **R. Deardon** "Spatial modeling of infectious disease transmission using continuous time geographically-dependent individual-level models" submitted to *Statistics in Medicine* (revision requested).

104. ***D. Douwes-Schultz***, **R. Deardon** & A. Schmidt "Hidden Markov individual-level models of infectious disease transmission" submitted to the *Journal of the American Statistical Association.*

103. ***M. Ward***, **R. Deardon**, L. Deeth, ***C. Ward*** "Bayesian epidemic models with dynamic adherence to protective behaviour changes" submitted to the *Journal of the Royal Statistical Society: Series C.*

102. ***Y. Mao***, **R. Deardon** & L. Deeth "Identifying memory mechanisms in Bayesian models of behavioural change during epidemics" submitted to *Annals of Applied Statistics*

101. ***Y. Mao***, **R. Deardon** & L. Deeth "Memory mechanisms for behavioural change in Bayesian individual level spatial epidemic models" submitted to *Infectious Disease Modelling*

100. ***Y. Zhang***, **R. Deardon** & L. Deeth "Behavioural change model choice in spatial epidemic models" submitted to *Canadian Journal of Statistics.*

99. ***J. MacLean*** & **R. Deardon** "Behavioural change in Canadian disease outbreaks" submitted to the *Canadian Journal of Statistics.*

98. ***R. Li***, **R. Deardon**, N. Li, J. Conly & J. Leal "Bayesian compartmental modelling of the transmission dynamics of methicillin-resistant *Staphylococcus aureus* (MRSA) within hospitals in Edmonton, Canada" submitted to the *Canadian Journal of Statistics* (revision requested). http://arxiv.org/abs/2511.07353

97. ***R. Li***, **R. Deardon**, N. Li, J. Conly & J. Leal "Modelling the effect of interventions to prevent the transmission of methicillin-resistant *Staphylococcus aureus* (MRSA) within hospitals in Edmonton, Canada" submitted to *Infectious Disease Modelling* (revision requested).

96. L. G. Salazar, H. McKenzie, **R. Deardon**, K. Pepin, R. Brook, J. Bahamon, C. Neva & M. Pruvot "Interaction risk between wild pigs and livestock: implications for potential infectious disease transmission in Alberta, Canada" submitted to *Preventive Veterinary Medicine.*

Accepted/In Press

95. V. Callier, **R. Deardon** & C. Viboud (2026) "Spatio-temporal spread of COVID-19 over three waves in the continental United States" to appear in the *Proceedings of the Royal Society B.*

Published Articles

94. ***Y. Zhang***, **R. Deardon** & L. Deeth (2026) "Composite method for fast computation of individual level spatial epidemic models" in *Spatial Statistics*, 72, 100957. https://doi.org/10.1016/j.spasta.2026.100957

93. ***J. Peitsch***, G. Pokharel & **R. Deardon** (2026) "Directional spatial individual level models of infectious disease transmission" in *Spatial Statistics*, 73, 100965.

92. ***M. Kamso***, S. Whittle, J. Pardo Pardo, R. Buchbinder, G. Wells, **R. Deardon**, T. Sajobi, G. Tomlinson, E, Jesse, J. Thomas, S. Kelly, G. Hazlewood (2026) "A semi-automated approach facilitated the assessment of the certainty of evidence in a network meta-analysis: Part 1 – Direct comparisons" in the *Journal of Clinical Epidemiology*, 191, 112109. https://doi.org/10.1016/j.jclinepi.2025.112109.

91. ***M. Kamso***, S. Whittle, J. Pardo Pardo, R. Buchbinder, G. Wells, **R. Deardon**, T. Sajobi, G. Tomlinson, E, Jesse, J. Thomas, S. Kelly, G. Hazlewood (2026) "A semi-automated approach facilitated the assessment of the certainty of evidence for in a network meta-analysis: Part 2 – indirect and mixed comparisons" in the *Journal of Clinical Epidemiology*, 191, 112110. https://doi.org/10.1016/j.jclinepi.2025.112110.

90. H. Qureshi, T. Hughes, E. Franco, K. Fiest, J. Gratrix, P. Smyczek, R. Read, A. Afzal, **R. Deardon**, A. Kassam & M. Fidler-Benaoudia (2026) "Risk of cancer among individuals with a history of bacterial sexually transmitted infections: a population-based study in Alberta, Canada" available online in *International Journal of Cancer*, 158(5), 1383-1395. http://doi.org/10.1002/ijc.70215

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89. ***M. Ward***, **R. Deardon** & L. Deeth (2025) "A framework for incorporating behavioural change into individual-level spatial epidemic models" in the *Canadian Journal of Statistics*, 53(1), e11828. https://doi.org/10.1002/cjs.11828

88. ***T. Akter*** & **R. Deardon** (2025) "Conditional logistic individual-level models of spatial infectious disease dynamics" in *Infectious Disease Modelling*, 10(1), 268-286. https://doi.org/10.1016/j.idm.2024.10.008

87. ***C. Rahul*** & **R. Deardon** (2025) "Behavioural change piecewise constant spatial epidemic models" in *Infectious Disease Modelling*, 10(1), 302-324. https://doi.org/10.1016/j.idm.2024.10.006

86. ***T. Akter*** & **R. Deardon** (2025) "Variable screening methods in conditional logistic individual level models of disease spread" in *Spatial & Spatiotemporal Epidemiology*, 54, 100742. https://doi.org/10.1016/j.sste.2025.100742

85. M. Lewis, P. Brown, C. Colijn, L. Cowen, C. Cotton, T. Day, **R. Deardon**, D. Earn, D. Haskell, J. Hefferman, P. Leighton, K. Murty, S. Otto, E. Rafferty, C. Hughes Tuohy, J. Wu & H. Zhu "Charting a future for emerging infectious disease modelling in Canada" (2025) in *Lasting Disruption: Economic and Social Impacts of COVID-19 in Canada*, McGill-Queen's University Press. (Ed: Christopher Cotton). http://hdl.handle.net/1828/15042.

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84. ***C. Rahul*** & **R. Deardon** (2024) "Individual-level models of disease transmission incorporating non-parametric spatial risk" in *Spatial & Spatiotemporal Epidemiology*, 50, 100664. https://doi.org/10.1016/j.sste.2024.100664

83. ***E. Hodzic-Santor*** & **R. Deardon** (2024) "Edge effects in spatial infectious disease models" in *Spatial & Spatiotemporal Epidemiology*, 50, 100673. https://doi.org/10.1016/j.sste.2024.100673

82. M. Biesheuvel, ***C. Ward***, P. Penterman, E. van Engelen, G. Schaik, **R. Deardon** & H. Barkema (2024) "Within-herd transmission of *Mycoplasma bovis* infection in 20 Dutch dairy herds" in *Journal of Dairy Science*, 107(1), 503-516. https://doi.org/10.3168/jds.2023-23407

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81. ***C. Ward***, **R. Deardon** & A. Schmidt (2023) "Bayesian modelling of dynamic behavioural change during an epidemic" *Infectious Disease Modelling*, 8(4), 947-963. https://doi.org/10.1016/j.idm.2023.08.002

80. ***L. Amiri***, M. Torabi & **R. Deardon** (2023) "Spatial modelling of infectious diseases with covariate measurement error" in *Journal of the Royal Statistical Society: Series C*, 73(2), 460-477. https://doi.org/10.1093/jrsssc/qlad104

79. ***L. Amiri***, M. Torabi & **R. Deardon** (2023) "Analyzing COVID-19 data in the Canadian Province of Manitoba: A new approach" in *Spatial Statistics*, 55:100729. doi: 10.1016/j.spasta.2023.100729.

78. ***T. Akter*** & **R. Deardon** (2023) "Comparison of variable screening methods in infectious disease transmission models" in *Spatial and Spatiotemporal Epidemiology*, 47, 100622.

77. **M. *Kamso***, J. Pardo, S. Whittle, R. Buchbinder, G. Wells, V. Glennon, P. Tugwell, **R. Deardon**, T. Sajobi, G. Tomlinson, J. Elliot, S. Kelly & G. Hazlewood (2023). "Crowdsourcing and automation facilitated the identification and classification of randomized controlled trials in a living review' in *Journal of Clinical Epidemiology*, 164, 1-8. https://doi.org/10.1016/j.jclinepi.2023.10.007

76. ***M. Pasha***, **R. Deardon** & A. Rahim (2023) "A study on inspection schemes in optimal design of control charts for deteriorating processes" in *Quality and Reliability Engineering International*, 39(3), 732-751. https://doi.org/10.1002/qre.3253

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75. ***M. Mahsin***, **R. Deardon** & P. Brown (2022) "Geographically-dependent individual-level models for infectious diseases transmission" in *Biostatistics*, 23(1), 1-17. https://doi.org/10.1093/biostatistics/kxaa009

74. ***J. Angevaare***, Z. Feng & **R. Deardon** (2022) "Pathogen.jl: Infectious disease transmission network modelling with Julia" in *Journal of Statistical Software*, 104(4), 1?30.

73. ***G. Pokharel*** & **R. Deardon** (2022) "Emulation-based inference for spatial infectious disease transmission models incorporating event time uncertainty" in the *Scandinavian Journal of Statistics*, 49(1), 455-479. http://doi.org/10.1111/sjos.12523

72. ***M. Ward***, L. Deeth & **R. Deardon** (2022) "Cluster-aggretion-disaggregation methods for spatial individual level models of infectious disease transmission" in *Spatial & Spatiotemporal Epidemiology*, 41: 100497. https://doi.org/10.1016/j.sste.2022.100497

71. ***S. A. Naqvi***, M. King, T. DeVries, H. Barkema & **R. Deardon** (2022) "Data considerations for developing deep learning models for dairy applications" in *Computers and Electronics in Agriculture*, 196: 106895. https://doi.org/10.1016/j.compag.2022.106895

70. ***S. A. Naqvi***, M. King, R. Matson, T. DeVries, **R. Deardon** & H. Barkema (2022) "Mastitis detection with recurrent neural networks in farms using automated milking systems" in *Computers and Electronics in Agriculture*, 192: 106618. https://doi.org/10.1016/j.compag.2021.106618

69. ***B. Jafari*** & **R. Deardon** (2022) "Bias and Bias-Correction for Individual-Level Models of Infectious Disease" in *Spatial & Spatiotemporal Epidemiology*, 43, 100524.

68. J. Di Francesco, G.P.S. Kwong, **R. Deardon**, S. L. Checkley, G. F. Mastromonaco, F. Mavrot, L. Leclerc & S. Kutz (2022) "Intrinsic and extrinsic factors associated with increased qiviut cortisol in wild muskoxen (Ovibos moschatus)" in *Conservation Physiology*, 10(1), coab103. https://doi.org/10.1093/conphys/coab103

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67. ***W. Almutiry***, ***V. Warriyar*** & **R. Deardon** (2021) "Continuous-time individual-level models of infectious disease: EpiILMCT" in the *Journal of Statistical Software*, 98(10), 1-44. https://www.jstatsoft.org/article/view/v098i10

66. ***L. Amiri***, M. Torabi, **R. Deardon** & M. Pickles (2021). "Spatial modeling of individual-level infectious disease transmission: tuberculosis data in Manitoba, Canada" in *Statistics in Medicine*, 40(7), 1678-1704. https://doi.org/10.1002/sim.8863

65. ***J. Angevaare***, Z. Feng & **R. Deardon** (2021) "Inference of latent event times and transmission network in individual level infectious disease models" in *Spatial & Spatiotemporal Epidemiology*, 37, 100410. https://doi.org/10.1016/j.sste.2021.100410

64. ***W. Almutiry*** & **R. Deardon** (2021) "Contact network uncertainty in individual level models of infectious disease transmission" in *Statistical Communications in Infectious Diseases*, 13(1). DOI: https://doi.org/10.1515/scid-2019-0012

63. ***Z. Liu***, **R. Deardon**, Y. Fu, ***T. Ferdous***, T. Ware & Q. Cheng (2021)"Estimating parameters of two-level individual-level models of the COVID-19 epidemic using ensemble learning classifiers" in *Frontiers in Physics*, 8(11), Article 602722. doi: 10.3389/fphy.2020.602722

62. ***A. Novaes de Amorim***, V. Saini & **R. Deardon** (2021) "A stacked ensemble method for forecasting influenza-like illness visit volumes at emergency departments" in *PLOS One*, 16(3): e0241725. https://doi.org/10.1371/journal.pone.0241725

61. S. Andres-Lasheras, R. Ha, R. Zaheer, C. Lee, C. Booker, C. Dorin, J. Van Donkersgoed, **R. Deardon**, S. Gow, S. Hannon, S. Hendrick, M. Anholt & T. McAllister (2021) "Prevalence and risk factors associated with antimicrobial resistance in bacteria related to bovine respiratory disease - A broad cross-sectional study of beef cattle at entry into Canadian feedlots" in *Frontiers in Veterinary Science*, 8, 710. doi: 10.3389/fvets.2021.692646

60. B. Singh, ***M. Lowerison***, R. Lewinson, I. Vallerand, **R. Deardon**, J. Gill, B. Singh & H. Barkema (2021) "Public health interventions slowed but did not halt the spread of COVID-19 in India" in *Transboundary and Emerging Diseases*, 68(4), 2171-2187. https://doi.org/10.1111/tbed.13868

59. C. Doolan, T. Louie, C. Lata, O. Larios, W. Stokes, J. Kim, K. Brown, P. Beck, **R. Deardon** & D. Pillai (2021) "Latent class analysis for the diagnosis of Clostridioides difficile infection" in *Clinical Infectious Diseases*, 73(9):e2673-e2679. https://doi.org/10.1093/cid/ciaa1553

58. B. Singh, M. Ward, ***M. Lowerison***, R. Lewinson, I. Vallerand, **R. Deardon**, J. Gill, B. Singh & H. Barkema (2021) "Meta-analysis and adjusted estimation of COVID-19 case fatality risk in India and its association with the underlying comorbidities" in *One Health*, 13:100283. https://doi.org/10.1016/j.onehlt.2021.100283.

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57. ***W. Almutiry*** & **R. Deardon** (2020) "Incorporating contact network uncertainty in individual level models of infectious disease using approximate Bayesian computation" in *The International Journal of Biostatistics*, 16(1), Article 20170092. DOI: https://doi.org/10.1515/ijb-2017-0092

56. ***V. Warriyar***, ***W. Almutiry*** & **R. Deardon** (2020) "Individual level modelling of infectious disease data: EpiILM" in *The R Journal* 12(1), 199-217.

55. G. Hazelwood, ***G. Pokharel***, **R. Deardon**, D. Marshall, C. Bombardier, G. Tomlinson, C. Ma, C. Seow, R. Panaccione & G. Kaplan (2020) "Patient preferences for maintenance therapy in Crohn's disease: a discrete-choice experiment" in *PLoS One*, 15(1):e0227635.

54. G. Hazlewood, S. Whittle, ***M. Kamso***, E. Akl, G. Wells, P. Tugwell, M. Thomas, C. Lee, M. Ejaredar, D. Choudhary, D. Neuen, J. New-Tolley, M. Powell, A. Quinlivan, A. Qaddoura, **R. Deardon**, L. Maxwell, J. Pardo Pardo, S. Kelly, R. Buchbinder (2020) "Disease-modifying anti-rheumatic drugs for rheumatoid arthritis: a systematic review and network meta-analysis" in *Cochrane Database of Systematic Reviews*, 2020 (3), CD013562

53. G.P.S. Kwong, **R. Deardon**, ***S. Hunt*** & M. Guerin (2020) "Bayesian optimal design of agricultural infectious disease transmission experiments" available online in *Statistical Communications in Infectious Diseases*, 12(1). https://doi.org/10.1515/scid-2018-0005

52. ***R. Romanescu*** & **R. Deardon** (2020) "Implementation of power law network models of epidemic surveillance data for better evaluation of outbreak detection alarms" in *Statistical Communications in Infectious Diseases*, 12(1). https://doi.org/10.1515/scid-2018-0004.

51. D. Nobrega, ***S. A. Naqvi***, S. Dufour, **R. Deardon**, J. Kastelic, J. de Buck & H. Barkema (2020) "Critically important antimicrobials are not needed to treat non-severe clinical mastitis in lactating dairy cows: results from a network meta-analysis" in the *Journal of Dairy Science*, 103(11), 10585-10603. https://doi.org/10.3168/jds.2020-18365

50. ***G. Pokharel***, **R. Deardon**, S. Johnson, G. Tomlinson, P. Hull, G. Hazelwood (2020) "Effectiveness of initial methotrexate-based treatment approaches in early rheumatoid arthritis: An elicitation of rheumatologists' beliefs" in *Rheumatology*, keaa803. https://doi.org/10.1093/rheumatology/keaa803

49. A. Ogilvy, S. Collins, T. Tuokko, M. Hilts, **R. Deardon**, W. Hare & A. Jirasek (2020) "Optimization of solid tank design for fan-beam optical CT based 3D radiation dosimetry" in *Physics in Medicine & Biology*. 65, 245012. https://doi.org/10.1088/1361-6560/abbf98

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48. ***C. Augusta***, **R. Deardon** & G. Taylor (2019) "Deep learning for supervised classification of spatial epidemics" in *Spatial & Spatiotemporal Epidemiology*, 29, 187-198.

47. ***M. Ward***, ***A. Stanley***, L. Deeth **R. Deardon**, Z. Feng & L. Trotz-Williams (2019) "Methods for detecting seasonal influenza epidemics using a school absenteeism surveillance system" in *BMC Public Health*, 19, Article: 1232.

46. ***C. Augusta***, G. Taylor & **R. Deardon** (2019) "Dynamic contact networks of swine movement in Manitoba, Canada: characterization and implications for infectious disease spread" in *Trans-boundary and Emerging Diseases*, 66(6), 1910 - 1919. DOI: https://doi.org/10.1111/tbed.13220.

45. ***G. Pokharel***, **R. Deardon**, C. Barnabe, V. Bykerk, S. Bartlett, L. Bessette, G. Boire, C. Hitchon, E. Keystone, J. Pope, O. Schieer, D. Tin, C.Thorne & G. Hazelwood (2019) "Joint estimation of remission and response for methotrexate-based DMARD options in rheumatoid arthritis: A bivariate network meta-analysis" in *ACR Open Rheumatology*, 1(8), 471-479. https://onlinelibrary.wiley.com/doi/epdf/10.1002/acr2.11052.

44. ***M. Lowerison***, C. Josephson, N. Jette, T. Sajobi, S. Patten, T. Williamson, **R. Deardon**, H. Barkema, & S. Wiebe (2019) "Association of levels of specialized care with risk of premature mortality in patients with epilepsy" in *JAMA Neurology*, 76(11), 1352-1358. DOI: https://doi.org/10.1001/jamaneurol.2019.2268

43. S. Coward, F. Clement, E. Benchimol, C. Bernstein, J. Antonio Avina-Zubieta, A. Bitton, M. Carroll, G. Hazelwood, K. Jacobson, S. Jelinski, **R. Deardon**, J. Jones, M. Ellen Kuenzig, D. Leddin, K. McBrien, S. Murphy, G. Nguyen, A. Otley, R. Pannaccione, A. Rezaie, G. Rosenfeld, J. Pena-Sanchez, H. Singh, L. Targownik, G. Kaplan (2019) "Past and future burden of inflammatory bowel diseases based on modeling of population-based data" in *Gastroenterology*, 156(5), 1345-1353.

42. J. Cheaveau, D. Marasinghe, S. Akakpo, **R. Deardon**, C. Naugler, A. Chin, D. R. Pillai (2019) "The impact of malaria on liver enzymes: a retrospective cohort study (2010-2017)" in *Open Forum Infectious Diseases*, 6(6).

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41. T. Petukhova, D. Ojkic, B. McEwen, **R. Deardon** & Z. Poljak (2018) "Assessment of ARIMA, GLARMA and random forest models for predicting Influenza A virus frequency in swine in Ontario, Canada" in *PLoS One*, 13(6): e0198313.

40. ***G. Pokharel*** & **R. Deardon** (2018) "Spatially informed back-calculation for spatio-temporal infectious disease models" in *Statistical Communications in Infectious Diseases*, Vol. 10(1), Article 2.

39. M. Lipson, **R. Deardon**, N. Switzer, C. DeGara, C. Ball & S. Grondin (2018) "Practice and attitudes regarding double gloving among staff surgeons and surgical trainees" in the *Canadian Journal of Surgery*, 61(4), 244-250.

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38. D. Toms, **R. Deardon** & M. Ungrin (2017) "Climbing the mountain: Experimental design for efficient optimization of stem cell bioprocessing" in the *Journal of Biological Engineering*, Vol. 11, No. 1

37. ***R. Romanescu*** & **R. Deardon** (2017) "Fast inference for network models of infectious disease spread" in the *Scandinavian Journal of Statistics*, 44(3), 666-683 (DOI: 10.1111/sjos.12270).

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36. ***G. Pokharel*** & **R. Deardon** (2016) "Gaussian process emulators for spatial models of infectious disease" in the *Canadian Journal of Statistics*, 44(4), 480-501.

35. ***R. Romanescu*** & **R. Deardon** (2016) "Modelling two strains of disease via aggregate-level infectivity curves" in the *Journal of Mathematical Biology*, 72(5), 1195-1224.

34. ***L. Deeth*** & **R. Deardon** (2016) "Spatial data aggregation for spatio-temporal individual-level models of infectious disease transmission" in *Spatial & Spatio-temporal Epidemiology*, 17, 95-104.

33. ***R. Malik***, **R. Deardon** & ***G.P.S. Kwong*** (2016) "Parameterizing spatial models of infectious disease spread using sampling-based likelihood approximations" in *PLoS One*, 11(1): e0146253. doi: 10.1371/journal.pone.0146253.

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32. ***L. Deeth***, **R. Deardon** & D. Gillis (2015) "Model choice using the Deviance Information Criterion for latent conditional individual-level models of infectious disease spread" in *Epidemiologic Methods*, 4(1), 47-68.

31. **R. Deardon**, ***X. Fang*** & ***G.P.S. Kwong*** (2015) "Statistical modelling of spatio-temporal infectious disease tranmission" in *Analyzing and Modeling Spatial and Temporal Dynamics of Infectious Diseases*, 211-232, John Wiley & Sons. (Ed: D. Chen, B. Moulin, J. Wu).

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30. T. J. McKinley, J. Ross, **R. Deardon** & A. Cook (2014) "Simulation-based Bayesian inference for epidemic models" in *Computational Statistics & Data Analysis*, 71, 434-447.

29. ***R. Malik***, **R. Deardon**, ***G.P.S. Kwong*** & B. J. Cowling (2014) "Individual-level modeling of the spread of influenza within households" in *Journal of Applied Statistics*, 41(7), 1578-1592.

28. ***G. Pokharel*** & **R. Deardon** (2014) "Supervised learning and prediction of spatial epidemics" in *Spatial & Spatio-Temporal Epidemiology*, 11, 59-77.

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27. ***L. Deeth*** & **R. Deardon** (2013) "Latent conditional individual level models for infectious disease modelling" in *The International Journal of Biostatistics*, 9(1), 75-93.

26. ***S. Subedi***, Z. Feng, **R. Deardon** & F. Schenkel (2013) "SNP selection for predicting a quantitative trait" in the *Journal of Applied Statistics*, 40(3), 600-613.

25. ***N. Bifolchi***, **R. Deardon** & Z. Feng (2013) "Spatial approximations of network-based individual level infectious disease models" in *Spatial & Spatio-temporal Epidemiology* , 6, 59-70.

24. T. Agvar, **R. Deardon** & J. Fryxyll (2013) "An empirically parameterized individual based model of animal movement, perception and memory" in *Ecological Modelling*, 251: 158-172.

23. K. Bottoms, Z. Poljak, C. Dewey, **R. Deardon**, D. Holtkamp & R. Friendship (2013) "Evaluation of external biosecurity practices on southern Ontario farms" in *Preventive Veterinary Medicine*, 109(1-2):58-68.

22. ***G.P.S. Kwong***, Z. Poljak, **R. Deardon** & C. Dewey (2013) "Bayesian analysis of risk factors for infection with a genotype of porcine reproductive and respiratory syndrome virus in Ontario swine herds using monitoring data" in *Preventive Veterinary Medicine*, 110(3-4):405-17.

21. K. Bottoms, Z. Poljak, B. Friendship, J. Alsop, **R. Deardon** & C. Dewey (2013) "An assessment of external biosecurity on southern Ontario swine farms, and its application to surveillance on a geographic level" in the *Canadian Journal of Veterinary Research*, 77(4), 241 - 253.

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20. ***I.Vrbik*, R. Deardon**, Z. Feng, ***A. Gardner*** & J. Braun (2012) "Using individual-level models to model the spatio-temporal dynamics of combustion" in *Bayesian Analysis*, 7(3), 615 – 638. (Funded by: NSERC).

19. ***G.P.S. Kwong* & R. Deardon** (2012) "Linearized forms of individual-level models for large-scale spatial infectious disease systems" in *Bulletin of Mathematical Biology*, 74(8), 1912 – 37. (Funded by: NSERC, OMAFRA).

18. Y. Hosseinkashi, S. Chenouri, C. Small & **R. Deardon** (2012) "A Stochastic Graph Process for Epidemic Modelling" in *Canadian Journal of Statistics*, 40(1), 55 – 67. (Funded by: NSERC).

17. **R. Deardon, *B. Habibzadeh* & *H. Y. Chung*** (2012) "Spatial measurement error in infectious disease models" in *Journal of Applied Statistics*, 39(5), 1139 – 1150. (Funded by: NSERC).

16. J. Gallienne, C. Gregg, E. LeBlanc, N. Yaakob, D. Wu, K. Davies, N. Rawlings, Pierson, **R. Deardon**, & Bartlewski "Correlations between ultrasonographic characteristics of corpora lutea (CL) and systemic concentrations of progesterone (P4) during the discrete stages of CL lifespan and secretory activity in cyclic ewes" in *Experimental Biology and Medicine*, 237, 505 – 515.

15. H. Le, Z. Poljak, **R. Deardon** & C. Dewey (2012) "Clustering of and risk factors for the porcine high fever disease in a region of Vietnam" in *Trans-boundary and Emerging Diseases*, 59(1), 49 – 61.

14. K. Bottoms, Z. Poljak, C. Dewey, **R. Deardon**, D. Holtkamp & R. Friendship (2012) "Investigation of strategies for the introduction and transportation of replacement gilts on southern Ontario sow farms" in *BMC Veterinary Research*, 8, 217.

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13. ***A. Gardner***, **R. Deardon** & G. A. Darlington (2011) "Goodness-of-fit measures for individual-level infectious disease models in a Bayesian framework" in *Spatial & Spatio-temporal Epidemiology,* 2(4), 273 – 281. (Funded by: NSERC, OMAFRA).

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12. **R. Deardon**, S. P. Brooks, B. T. Grenfell, M. J. Keeling, M. J. Tildesley, N. J. Savill, D. J. Shaw & M. E. J. Woolhouse (2010), "Inference for individual-level models of infectious diseases in large populations" in *Statistica Sinica*, 20(1), 239-261. (Funded by: Wellcome Trust, UK).

11. ***B. Habibzadeh* & R. Deardon** (2010), "The effect of misspecifying latent and infectious periods in space-time epidemic models" in *Statistical Communications in Infectious Diseases*, Vol. 2: Issue 1, Article 7. (Funded by: NSERC).

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10. T. J. McKinley, A. Cook & **R. Deardon** (2009) "Inference in epidemic models without likelihoods" in *The International Journal of Biostatistics*, 5(1), Article 24. (Funded by: NSERC).

9. P.E. Caines, **R. Deardon** & H. P. Wynn (2009) "Bayes' nets of time series: stochastic realizations and projections" in *Optimal Experimental Design and Related Areas* (Ed: L Pronzato and A Zhigliavsky), 155-166, Springer.

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8. A. J. Grant, M. Sheppard, **R. Deardon**, S. P. Brown, G. Foster, C. E. Bryant, D. J. Maskell & P. Mastroeni (2008) "Caspase 3-dependent phagocyte death during systemic Salmonella enterica serovar Typhimurium infection of mice" in *Immunology* ,125(1), 28-37.

7. M. J. Tildesley, **R. Deardon**, N. J. Savill, P. Bessell, S. P Brooks, M. E. J. Woolhouse, B. T. Grenfell & M. J. Keeling (2008) "Accuracy of models for the 2001 foot-and-mouth disease epidemic" in *Proceedings of the Royal Society B*, 275(1641), 1459-1468. (Funded by: Wellcome Trust, UK).

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6. N. J. Savill, D. J. Shaw, **R. Deardon**, M. J. Tildesley, M. J. Keeling, S. P. Brooks, M. E. J. Woolhouse & B. T. Grenfell (2007), "Effect of data quality on estimates of farm infectiousness trends in the UK 2001 foot-and-mouth disease epidemic" in *Journal of the Royal Society Interface*, 4, 235-241. (Funded by: Wellcome Trust, UK).

---

5. **R. Deardon**, S. G. Gilmour, N. A. Butler, K. Phelps & R. Kennedy (2006), "Designing field experiments which are subject to representation bias" in *Journal of Applied Statistics*, 33, 7, 665-680. (Funded by: EPSRC, UK).

4. M. J. Tildesley, N. J. Savill, D. J. Shaw, **R. Deardon**, S. P. Brooks, M. E. J. Woolhouse, B. T. Grenfell & M. J. Keeling (2006), "Optimal reactive vaccination strategies for an outbreak of foot-and-mouth disease in Great Britain" in *Nature*, 440, 1080, 83-86. (Funded by: Wellcome Trust, UK).

3. N. J. Savill, D. J. Shaw, **R. Deardon**, M. J. Tildesley, M. J. Keeling, S. P. Brooks, M. E. J. Woolhouse & B. T. Grenfell (2006), "Topographic determinants of foot and mouth disease transmission in the UK 2001 epidemic" in *BMC Veterinary Research*, Vol. 2:3. (Funded by: Wellcome Trust, UK).

---

2. **R. Deardon**, S. G. Gilmour, N. A. Butler, K. Phelps & R. Kennedy (2004), "A method for ascertaining and controlling representation bias in field trials for airborne plant pathogens" in the *Journal of Applied Statistics*, 31, 3, 2004, 329-343.

---

1. P.E. Caines, **R. Deardon** & H. P. Wynn (2002) "Conditional Orthogonality and Conditional Stochastic Realization" in *New Directions in Mathematical Systems Theory and Optimization*, Springer.

Conference Proceedings

- A. Ogilvy, S. Collins, W. Hare, M. Hilts, T. Tuokko, **R. Deardon** & A. Jirasek. "Optimization of solid tank design for fan-beam optical CT based 3D radiation dosimetry." Submitted to the International Conference on 3D and Advanced Dosimetry (IC3DDose), Quebec City, Canada.
- *M. Aghajanpoorpasha* & **R. Deardon** (2019) "On Minimum Cost Non-Uniform Sampling Schemes for Optimal Design of Control Charts: Application to $\overline{X}$ and T^2 Control Charts" Fourth North American International Conference on Industrial Engineering and Operations Management (IEOM).
- P.E. Caines, **R. Deardon** & H. P. Wynn (2002) "Conditional independence and general factorisations in times series graphical models" in the *2002 Proceedings of the American Statistical Association, Physical and Engineering Sciences Section* [CD-ROM], Alexandria, VA: American Statistical Association.

Published Letters

- M. J. Keeling, M. J. Tildesley, N. J. Savill, M. E. J. Woolhouse, D. J. Shaw, **R. Deardon**, S. P. Brooks, & B. T. Grenfell (2007), "Veterinary epidemiology: Vaccination strategies for foot-and-mouth disease" (reply to Brief Communication Arising by Kitching et al.) in *Nature*, 445, E12-E13, 8 February 2007.
- M. J. Keeling, M. J. Tildesley, N. J. Savill, M. E. J. Woolhouse, D. J. Shaw, **R. Deardon**, S. P. Brooks, & B. T. Grenfell (2006), response to letter, "FMD control strategies" by Wingfield, Miller & Honhold in *The Veterinary Record*, May 20, 2006. (Funded by: Wellcome Trust, UK).

Technical & Other Reports

J. Bartoszko, A. Komorowski, J. Leal, Y. Zhang, J. Brozek, **R. Deardon**, & M. Loeb (2025). "Modelled evidence addressing non-pharmacological interventions for viral respiratory infections: A scoping review protocol." *Open Science Framework*. osf.io/4j8ec

- M. Lewis, P. Brown, C. Colijn, L. Cowen, C. Cotton, T. Day, **R. Deardon**, D. Earn, D. Haskell, J. Heffernan, P. Leighton, K. Murty, S. Otto, E. Rafferty, C. Hughes Tuohy, J. Wu & H. Zhu (2023) "Charting a future for emerging infectious disease modelling in Canada." http://hdl.handle.net/1828/15042
- **R. Deardon** & S. P. Brooks (2007) "Bayesian modelling of the spatio-temporal dynamics of large-scale epidemics," technical report, *Statistical Series* #2007-312, Department of Mathematics & Statistics, University of Guelph.
- P.E. Caines, **R. Deardon** & H. P. Wynn (2007) "Algebraic Methods for Conditional Independence in Time Series Graphical Models," technical report, *Statistical Series* #2007-313, Department of Mathematics & Statistics, University of Guelph.

Software

- ***C. Ward***, **R. Deardon** & A. Schmidt (2023) "epidemicBCM: Bayesian modelling of dynamic behavioural change during an epidemic"
  - Github Repository (R Nimble): https://github.com/ceward18/epidemicBCM
- ***W. Almutiry***, ***V. Warriyar*** & **R. Deardon** (2019) EpiILMCT: Continuous Time Individual-Level Models of Infectious Disease.
  - CRAN Webpage: https://cran.r-project.org/web/packages/EpiILMCT/index.html

  - Github Repository: https://waleedalmutiry.github.io/EpiILMCT/

- ***J. Angevaare***, **R. Deardon**, Z. Feng (2017) PhyloTrees.jl: Phylogenetic trees in Julia.

  - Github repository (Julia): https://github.com/jangevaare/PhyloTrees.jl

- ***J. Angevaare***, **R. Deardon**, Z. Feng (2017) SubstitutionModels.jl: Biological Sequence Substitution Models for Julia.

  - Github repository (Julia). https://github.com/BioJulia/SubstitutionModels.jl

- ***V. Warriyar*** & **R. Deardon** (2017) EpiILM: Spatial and Network Based Individual Level Models for Epidemics (R Package).

  - CRAN Webpage: https://CRAN.R-project.org/package=EpiILM

- ***J. Angevaare***, **R. Deardon**, Z. Feng (2016) Pathogen.jl: Simulation and inference tools for phylodynamic individual level models.

  - Github repository (Julia): https://github.com/jangevaa/Pathogen.jl

- ***J. Angevaare***, **R. Deardon**, Z. Feng (2014) ilmtools: Tools for simulating and performing inference of individual level infectious disease transmission models.

  - Github repository (Julia): https://github.com/jangevaa/ilmtools

---

Theses

- **R. Deardon** (2001) "Representation Bias in Field Trials for Airborne Plant Pathogens" Ph.D. Thesis, School of Applied Statistics, University of Reading, UK.
- **R. Deardon** (1997) "Multiple Testing: An Investigation of the Power Properties of Members of a Family of Closed Test (including Hommel's Test)" M.Sc. Thesis, Department of Mathematics, University of Southampton, UK.