Upcoming Presentations

- Invited talk at the Joint Statistical Meetings, Portland, Oregon, USA (August 2024)"Composite spatial epidemic models: computational efficiency via clustering"
- **Keynote Lecture** at GEOMED Conference, Hasselt, Belgium (Sept. 2024) "A journey through spatial epidemic modelling"
- Invited talk at the Banff International Research Statistics (BIRS) Workshop on SocioEconomic Mathematical Epidemiology: Developing Mathematical Modelling Theory, Banff, Alberta, Canada (Sept. 2024) "Feedback mechanisms in epidemic models: Is your population alarmed?"
- Invited talk at the International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), Kings College London, London, UK (Dec. 2024) "Directionally dependent spatial infectious disease models"

Presentations

116. Invited talk at EcoSta, Beijing, China (July 2024) "An approach for jointly modelling epidemic and behavioural dynamics"
115. Invited talk at the Society for Mathematical Biology, Seoul, South Korea (July 2024) "Bayesian nonparametric behavioural change epidemic models"
114. Invited talk at the Statistical Society of Canada Annual Meeting, Memorial University, St. John's, Canada (June 2024) "Composite spatial epidemic models: computational efficiency via clustering"
113. Contributed talk at the Centre for Public Health and Zoonoses (CPHAZ) Annual Symposium, University of Guelph, Guelph, Canada (May 2024) "Bayesian behavioural-change epidemic models: is your population alarmed?"
112. Invited talk at the Biostatistics Research Day, University of Calgary Biostatistics Centre (UCBC), Calgary, Canada (May 2024) "Modelling lockdown fatigue: epidemic models with time-varying behavioural-change mechanisms"
111. Invited talk at the MRC Biostatistics Unit, University of Cambridge, Cambridge, UK (March 2024) "Bayesian behavioural-change epidemic models: is your population alarmed?"
110. **One-day Short Course** at the Eastern North American Region of the International Biometric Society (IBS-ENAR), Baltimore, Maryland, USA. (March 2024) "Bayesian Modelling of Epidemics: From Population to Individual-level Models" (co-taught with C. Ward, University of Minnesota).
109. Invited talk at the Department of Mathematics & Statistics (Coffee Talks), University of Calgary, Calgary, Canada (Feb 2024) "Behavioural change mechanisms in epidemic models"

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108. Invited talk at the International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), HTW Berlin – University of Applied Sciences, Berlin, Germany (Dec. 2023) "Improving the computational efficiency of spatial disease transmission models via clustering"

107. Invited talk at Banff International Research Statistics (BIRS) Workshop on The Canadian Network for Modelling Infectious Diseases: Progress and Next Steps, Banff, Canada (Nov 2023) "Bayesian non-parametric behavioural change epidemic models"

106. Invited Biostatistics/SAGE Seminar, University of Calgary, Calgary, Canada (Sept. 2023) "Feedback mechanisms in epidemic models: Is your population alarmed?"

105. Invited talk at the Conference in Statistics and Data Science with Applications in Biology, Genetics, Public Health, and Finance, Thompson Rivers University, Kamloops, Canada (August 2023) "Feedback mechanisms in epidemic models: Is your population alarmed?"

104. Invited talk at the Joint Statistical Meetings, Toronto, Canada (August 2023) "Behavioural change mechanisms in spatial disease transmission models"

103. Invited talk at the CANSSI-NISS Health Data Science Workshop (August 2023), Waterloo, Canada "Individual-level models of disease transmission: a tool for precision health?"

102. Invited talk at the International Statistical Institute World Statistics Congress, Ottawa, Canada (July 2023) "Identifying behavioural change mechanisms in epidemic models"

101. Invited American Statistical Association (ASA) Committee on International Relations in Statistics (CIRS) and Statistics Without Borders (SWB) Seminar (July 2023) "Introduction to Bayesian Modelling of Epidemics: From Population to Individual-level Models" (Online)

100. Invited talk at the Data Science Research Day, University of Calgary, Calgary, Canada (June 2023). "Data-driven epidemic modelling: can we do better?"

99. Invited talk at the Department of Mathematics & Statistics, University of British Columbia, Vancouver, Canada (June 2023) "Epidemic models: can we make them behave better?" (Online)

98. Contributed talk at the Statistical Society of Canada Annual Meeting, Carleton University, Ottawa, Canada (May 2023) "Population-dependent time-varying transmission rates in epidemic models"

97. Contributed talk at the BayesComp Workshop on Bayesian Inference in Epidemic Models, Levi, Finland (March 2023) "Identifying behavioural change mechanisms in epidemic models"

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96. Invited talk at the International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), Kings College London, London, UK (Dec. 2022) "Behavioural change in epidemic models"

95. Invited talk at the Canadian Network for Modelling Infectious Diseases (CANMOD) (Oct. 2022) "Behavioural change in epidemic models" (Online)

94. **Plenary talk** at the Waterloo Student Conference in Statistics, Actuarial Science and Finance, Waterloo, Ontario, Canada (Oct. 2022) "Epidemic models: can we make them behave better?"

93. Invited talk at GEOMED Conference, Irvine, California, USA (Oct. 2022) "Variable screening in spatial epidemic models"

92. One day workshop at the International Society for Bayesian Analysis World Meeting, Montreal, Quebec, Canada (June 2022) "Bayesian Modelling of Epidemics" (co-taught with *C. Ward*).

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91. Invited talk at the International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), King's College, London, UK (December 2021) "Behavioural change in spatial epidemic models" (Online)

90. Invited talk at the Society of Undergraduate Mathematics Calgary (SUM-C) Research Evening, University of Calgary, Calgary, Canada (Oct. 2021) "Infectious Disease Modelling & Surveillance"

89. Invited talk at the Joint Statistical Meetings, Seattle, USA (August 2021) "Machine learning-assisted infectious disease modelling" (Online)

88. Invited talk at the National Institute for Applied Statistics Research Australia (NIASRA), University of Wollongong, Australia (July 2021) "Fast parameterization of spatial epidemic models: let's emulate." (Online)

87. Invited talk at the ISI World Statistics Congress, The Hague, the Netherlands (July 2021) "Infectious disease modelling in a hurry" (Online)

86. Invited talk at the Statistical Society of Canada Annual Meeting, Memorial University, St. John's, Canada (June 2021) "Infectious disease modelling with the assistance of machine learning" (Online)

85. Invited talk at the Statistical Society of Canada Annual Meeting, Memorial University, St. John's, Canada (June 2021) "Information on the NSERC 2021 competition results and Discovery Grant preparation" (co-presented with Adele Ngi-Song, NSERC Program Officer) (Online)

84. Invited discussant for the "Student supervision: Advice and insights on academic advising" session at the Statistical Society of Canada Annual Meeting, Memorial University, St. John's, Canada (June 2021) (Online)

83. Invited talk at CANSSI-NISS Health Data Science Workshop (May 2021) "Modelling COVID-19 using machine learning-based inference methods" (Online)

82. **Short course (half-day)** at CANSSI-NISS Health Data Science Workshop (May 2021) "Introduction to disease modeling" (Online)

81. Invited talk at University of Calgary, Calgary, Canada (March 2021) "Machine learning our way to data-driven infectious disease modelling" (Online)

80. Invited talk at McMaster University, Hamilton, Canada (March 2021) "Machine learning our way to data-driven infectious disease modelling" (Online)

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79. Invited talk at the International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics), King's College, London, UK (December 2020) "Machine learning assisted infectious disease modelling" (Online)

78. Invited talk at University of Victoria, Victoria, Canada (October 2020) "Geographically-dependent individual-level models for infectious disease transmission" (Online)

77. Invited talk at the Joint Statistical Meetings, Philadelphia, USA (August 2020) "Geographically-dependent individual-level models for infectious disease transmission" (Online)

76. Biostatistics Section Annual **Workshop** at the Statistical Society of Canada Conference, Ottawa, Canada (June 2020) "Introduction to Epidemic Modelling" (Online)

75. Invited talk at the Department of Mathematics & Statistics, York University, Canada (March 2020) "Parameterization via emulation: Spatial models of infectious disease transmission"

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74. **Plenary talk** at the Annual Meeting of Alberta Statisticians, University of Calgary, Calgary, Canada (Sept. 2019) "Approximate Bayesian computation for epidemic models with uncertain underlying contact networks"

73. Invited talk at Canadian Organization of Medical Physicists (COMP) Annual Meeting, Kelowna, BC, Canada. (Sept. 2019) "Artificial intelligence in infectious disease epidemiology"

72. Invited talk at GEOMED Conference, Glasgow, UK (Aug. 2019) "Identifying spatial dynamics of infectious disease spread via machine learning classifiers"

71. Invited talk at the International Conference on Econometrics and Statistics (EcoSta), Taichung, Taiwan (June 2019) "Parameterization via emulation: Spatial models of infectious disease transmission"

70. Invited talk at the Canadian Student Statistical Conference, University of Calgary, Calgary, Canada (May 2019) "The O'Brien Institute for Public Health (OIPH) & The University of Calgary Biostatistics Centre (UCBC)"

69. Invited talk at the Statistical Society of Canada Annual Meeting, University of Calgary, Calgary, Canada (May 2019) "NSERC Discovery Grant Workshop" (co-presented with Michelle Payne, NSERC Program Officer)

68. Invited discussant for the "Rocky Mountain and Atlantic Collaborations in the Health Sciences" session at the Statistical Society of Canada Annual Meeting, University of Calgary, Calgary, Canada (May 2019)

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67. Invited talk at the Department of Biostatistics, University of Iowa, Iowa City, USA (December 2018) "Parameterization via emulation: spatial models of infectious disease transmission"

66. Invited talk at Banff International Research Statistics (BIRS) workshop on Mathematical and Statistical Challenges in Bridging Model Development, Parameter Identification and Model Selection in the Biological Sciences, Banff, Canada (November 2018) "Emulation-based methods for parameterizing spatial infectious disease models"

65. Invited electronic poster at the Joint Statistical Meetings, Vancouver, Canada (July 2018) "Deep learning for infectious disease systems."

64. Invited talk at the International Environmentrics Society Meeting, Guanaujuato, Mexico (July 2018) "Spatial infectious disease models incorporating aggregate-level spatial structure."

63. **Plenary talk** at the Medical Physics & Data Analytics Workshop, University of British Columbia-Okanogan, Canada (July 2018) "Bayesian optimal design for nonlinear systems: case studies from infectious disease epidemiology."

62. Invited talk at the Western North American Region of The International Biometric Society (WNAR-IBS) /Institute of Mathematical Statistics (IMS) Joint Conference, University of Alberta, Edmonton, Canada (June 2018) "Approximating the spatio-temporal dynamics of infectious disease via emulation"

61. **Short course** at the Western North American Region of The International Biometric Society (WNAR-IBS) /Institute of Mathematical Statistics (IMS) Joint Conference, University of Alberta, Edmonton, Canada (June 2018) "Individual-level Transmission Process Modelling: Epidemics, Invasive Species and Beyond."

60. Invited talk at the Workshop for Causal Adjustment in the Presence of Spatial Dependence, Centre de Recherches Mathématiques, Montréal, Canada (June 2018) "Spatial models of infectious disease transmission: data and computation."

59. Invited talk at the University of Calgary Veterinary Medicine Research Festival, Calgary, Canada (May 2018) "R Software for individual-level transmission modelling."

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58. Invited talk at MacDATA Institute, McMaster University (Nov. 2017) "Approximating the spatio-temporal dynamics of infectious disease via emulation."

57. Invited talk at GEOMED Conference, Porto, Portugal (Sept. 2017) "Individual-level infectious disease models incorporating aggregate level spatial structure"

56. Invited talk at the Joint Statistical Meetings, Baltimore, USA (Aug. 2017) "Individual-level infectious disease models incorporating aggregate level spatial structure"

55. **Two-day post-conference workshop** at the Canadian Veterinary Epidemiological and Preventive Medicine (CAVEPM) Conference (June 2017), University of Calgary, Calgary, Canada "Bayesian Infectious disease modeling"

54. **Keynote talk** at the Calgary Applied and Industrial Mathematical Sciences Conference, Calgary, Canada (May 2017) "An introduction to Bayesian individual-level infectious disease modelling"

53. **Plenary talk** at the Alberta Mathematics Dialogue Conference, MacEwen University, Edmonton, Canada (April 2017) "An introduction to individual-level infectious disease modelling within a Bayesian statistical framework"

52. Invited talk at the Department of Epidemiology, Biostatistics & Occupational Health, McGill University, Montréal, Canada (Jan. 2017) "Inferring the spatial dynamics of infectious disease via Gaussian process emulation"

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51. Invited talk at Banff International Research Statistics (BIRS) Workshop on Mathematical Biology for Understanding Emerging Infectious Diseases at the Human-Animal-Environment Interface: a One Health Approach, Banff, Canada (Nov 2016) "Real Time Modelling of Epidemics (A Statistician's Perspective)"

50. Invited talk at Joint Statistical Meetings, Chicago, USA (July 2016) "Gaussian process emulation for spatial infectious disease models"

49. Invited talk at International Workshop on Applied Probability (IWAP), Toronto, Canada (June 2016) "Approximate Bayesian computation for epidemic models with uncertain underlying contact networks"

48. Invited talk at the Statistical Society of Canada Annual Meeting, Brock University, St. Catherines, Canada (May 2016) "Infectious disease modelling in the presence of underlying contact network uncertainty"

47. Invited talk at the Pacific Institute of Mathematical Sciences (PIMS), Calgary, Canada (May 2016) " Bayesian study design for non-linear systems: a disease transmission experiment case study"

46. Invited talk at National University of Singapore, Singapore (April 2016) "Emulator-based inference for models of large-scale infectious disease systems."

45. Invited talk at School of Public Health, University of Hong Kong, Hong Kong (March 2016) "Optimal experimental and study design for infectious disease systems of animals."

44. Invited talk at Simon Fraser University, Canada (Feb. 2016) "Approximate Bayesian inference for large-scale epidemic models."

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43. Invited talk at Annual Conference on Neural Information Processing Systems (NIPS), Montréal, Canada (Dec. 2015) "ABC-based inference for epidemic models with uncertain underlying contact networks."

42. Invited talk at GEOMED Conference, University of Florence, Italy (Sept. 2015) "Approximate inference for spatial epidemic models."

41. Invited talk at Bioinformatics Symposium, University of Calgary, Canada (May 2015) "Computational statistics, disease modelling and design."

40. Invited talk at Descriptive and Predictive Methods in the Study of Communicable Diseases: Biomathematics & Biostatistics Workshop, University of Guelph/Fields Institute, Guelph, Canada (May 2015) "Emulator based inference for models of large-scale infectious disease systems."

39. Invited talk at Evidence-based Decision Support for Food Security Workshop, University of Warwick, Coventry, UK (April 2015) "Emulator based inference for models of large-scale infectious disease systems."

38. Invited talk at Harvard School of Public Health, Boston, USA (March 2015) "Bayesian optimal design methods for infectious disease transmission studies."

37. Invited talk at University of Calgary (Community Health Sciences), Canada (Feb. 2015) "A Bayesian approach to infectious disease transmission modelling – dealing with uncertainty."

36. Invited talk at University of Victoria, Victoria, Canada (Jan. 2015) "Sampling-based approximate inference for large-scale infectious disease transmission models."

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35. Invited talk at OMAFRA Emergency Management Expo, Guelph, Canada (Dec. 2014) "Using experimental design to better understand infectious disease spread in the livestock industries."

34. Invited talk at University of Calgary (SAGE/Biostatistics, Mathematics & Statistics), Canada (Nov 2014) "The ABCs of infectious disease modelling."

33. Invited talk at 36th Annual Meeting of Alberta Statisticians, Edmonton, Canada (Oct 2014) "Bayesian optimal design of disease transmission experiments (and other issues in disease modelling)."

32. Invited talk at Statistical Society of Canada Annual Meeting, Toronto, Canada (May 2014) "Optimal experimental design for infectious disease systems of animals."

31. Invited talk at Simulation Models of Infectious Diseases (SIMID) Workshop, Hasselt, Belgium (April 2014) "Optimal experimental design for infectious disease systems of animals."

30. Invited talk at University of Calgary, Canada (April 2014) "Optimal experimental design for infectious disease systems of animals."

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29. Invited talk at University of Prince Edward Island, Canada (Dec 2013) "Data uncertainty in herd-level infectious disease transmission modelling."

28. Invited talk at the Statistical Science in Society Conference, University of Waterloo, Canada (August 2013) "Approximate methods of parameter estimation for spatial epidemic models."

27. Invited talk at the International Environmetrics Society Meeting, Anchorage, Alaska, USA (June 2013) "Parameterizing individual-level models of infectious disease spread using sampling-based likelihood approximations."

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26. Invited talk at University of Windsor, Canada (Oct 2012) "Efficient forms of individual-level models for large-scale spatial infectious disease."

25. Invited talk at Statistical Society of Canada Annual Meeting, Guelph, Canada (June 2012) "Efficient forms of individual-level models for large-scale spatial infectious disease."

24. Invited talk at Fields Institute (IDEA Seminar), Toronto, Canada (April 2012) "A Bayesian approach to dealing with uncertainty in infectious disease modelling."

23. Invited talk at McMaster University, Canada (Feb 2012) "Efficient forms of individual-level models for large-scale spatial infectious disease."

22. Invited talk at University of Manitoba (Jan 2012) "Computationally efficient forms of spatial infectious disease models for large populations."

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21. Invited talk at University of Warwick, UK (Nov 2011) "Latent conditional individual level models for infectious disease modelling."

20. Invited talk at University of Toronto, Canada (Oct 2011) "Efficient forms of individual-level models for large-scale spatial infectious disease."

19. Invited talk at OMAFRA Emergency Management Expo, Guelph, Canada (Sept 2011) "A statistical approach to modelling infectious diseases."

18. Invited talk at University of Saskatoon, Canada (Aug 2011) " Individual-level models of infectious disease."

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17. Invited talk at Banff International Research Statistics (BIRS) Workshop on Front propagation in heterogeneous media: mathematical, numerical, and statistical issues in modelling a forest fire front, Banff, Canada (Oct 2010) "Modelling the spatio-temporal dynamics of fire spread."

16. Invited talk at NICDS workshop, University of Montréal, Canada (March 2010) "Finite mixtures of infectious disease models."

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15. Invited talks at University of McGill, Canada (Dec 2009) "Likelihood-free inference for epidemic models" & "Individual-level modelling of infectious diseases."

14. Invited talk at Statistical Society of Canada conference, Vancouver, Canada (June 2009) "Likelihood-free inference for epidemic models."

13. Invited talk at University of Toronto, Canada (Jan 2009) "Likelihood-free inference for epidemic models."

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12. Invited talk at the Department of Mathematics & Statistics, York University, Canada (Sept 2007) ?Modelling the spatio- temporal dynamics of infectious diseases: the UK 2001 foot-and-mouth epidemic?

11. Invited talk at University of Waterloo, Canada (Sept 2007) "Modelling the spatio-temporal dynamics of the UK 2001 foot-and-mouth epidemic."

10. Invited talk at Public Health Agency of Canada, Guelph, Canada (May 2007) "The statistical modelling of infectious diseases in time and space."

9. Invited talk at the SSC Southern Ontario New Investigator Workshop, University of Waterloo, Canada (February 2007) "The statistical modelling of infectious diseases in time and space."

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8. Invited talk at the Department of Population Medicine, Ontario Veterinary College, University of Guelph, Canada (November 2006) "Modelling infectious diseases over time and space"

7. Invited talk at the European Meeting of Statisticians, Torun, Poland (July 2006) "Modelling the UK 2001 foot-and-mouth epidemic".

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6. Invited talk at the Health Protection Agency, London, UK (July 2005) "Modelling the UK 2001 Foot-and-Mouth Epidemic: A Bayesian MCMC Approach"

5. Invited talk at Lund University, Sweden (March 2005) "The UK 2001 Foot-and-mouth Disease Epidemic (A Case Study in Individual Level Spatial Epidemiology)."

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4. Invited talk at Imperial College London, UK (June 2004) "Modelling the UK 2001 Foot-and-Mouth Epidemic: A Bayesian MCMC Approach"

3. Invited talk at the MRC-Biostatistics Unit, University of Cambridge, UK (March 2004) "The UK 2001 Foot-and-mouth Disease Epidemic (A Case Study in Individual Level Spatial Epidemiology)"

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2. Invited talk at the Royal Statistical Society, London, UK (May 2003) "Using Bayesian MCMC to model the spatio-temporal dynamics of foot-and-mouth disease."

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1. Invited talk at the Department of Mathematics & Statistics, Queen Mary, University of London (May 2000) "The use of an airborne plant disease dispersal simulation in designing agricultural experiments which minimise representation bias"