Publication List
(Research Group Members Shown in Italics)

Submitted Articles

70. **Amiri**, Torabi & **Deardon** “Spatial modeling of infectious diseases with covariate measurement error” submitted to *Biometrics*.


68. **Novaes de Amorim**, Saini & **Deardon** “A stacked ensemble method for forecasting influenza-like illness visit volumes at emergency departments” submitted to *PLOS One*.

67. **Angevaare**, Feng & **Deardon** “Pathogen.jl: Infectious disease transmission network modelling with Julia” submitted to the *Journal of Statistical Software*.

66. **Angevaare**, Feng & **Deardon** “Inference of latent event times and transmission network in individual level infectious disease models” submitted to *Spatial & Spatiotemporal Epidemiology*.


63. **Jafari** & **Deardon** “Bias and Bias-correction in individual-level models of infectious disease” submitted to *Spatial & Spatiotemporal Epidemiology*.

62. **Almutiry** & **Deardon** “Spatial contact network uncertainty in individual level models of infectious disease transmission” submitted to *Statistical Communications in Infectious Diseases* (revision requested).


60. Singh, Ward, **Lowerison**, Lewinson, Vallerand, **Deardon**, Gill, Singh & Barkema “Meta-analysis and adjusted estimation of COVID-19 case fatality risk in India and its association with the underlying comorbidities” submitted to the *One Health*.

Accepted/In Press


57. G.P.S. Kwong, **R. Deardon, S. Hunt** & M. Guerin “Bayesian optimal design of agricultural infectious disease transmission experiments” available online in *Statistical Communications in Infectious Diseases*. https://doi.org/10.1515/scid-2018-0005


### Published Articles


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.


Conference Proceedings


Published Letters


Technical Reports


Software

  - CRAN Webpage: https://cran.r-project.org/web/packages/EpiILMCT/index.html
  - Github Repository: https://waleedalmutiry.github.io/EpiILMCT/

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

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

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

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

**Theses**


Selected Invited Presentations

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

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

- Biostatistics Section Annual Workshop at the Statistical Society of Canada Conference, Ottawa, Canada (June 2020) “Introduction to Epidemic Modelling” (Online)

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

- 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”


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

- 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)”

- 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)

- 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)

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

- Invited talk at 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”


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

- 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.”
• 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”

• 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.”

• 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.”

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

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

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

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

• 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”

• Keynote talk at the Calgary Applied and Industrial Mathematical Sciences Conference, Calgary, Canada (May 2017) “An introduction to Bayesian individual-level infectious disease modelling”

• 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”

• 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”

• Invited talk at 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)”

• Invited talk at Joint Statistical Meetings, Chicago, USA (July 2016) “Gaussian process emulation for spatial infectious disease models”

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

• 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”

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

• 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.”

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


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

• Invited talk at Biinformatics Symposium, University of Calgary, Canada (May 2015) “Computational statistics, disease modelling and design.”

• 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.”

• 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.”

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

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

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

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

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

• 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).”

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

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

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

• Invited talk at University of Prince Edward Island, Canada (Dec 2013) “Data uncertainty in herd-level infectious disease transmission modelling.”
• Invited talk at the Statistical Science in Society Conference, University of Waterloo, Canada (August 2013) “Approximate methods of parameter estimation for spatial epidemic models.”

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

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

• 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.”

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

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

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

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

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

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

• Invited talk at University of Saskatoon, Canada (Aug 2011) “Individual-level models of infectious disease.”

• Invited talk at 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.”

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

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

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

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

• 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?”

• Invited talk at University of Waterloo, Canada (Sept 2007) “Modelling the spatio-temporal dynamics of the UK 2001 foot-and-mouth epidemic.”
• Invited talk at Public Health Agency of Canada, Guelph, Canada (May 2007) “The statistical modelling of infectious diseases in time and space.”

• 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.”

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

• Invited talk at the European Meeting of Statisticians, Torun, Poland (July 2006) “Modelling the UK 2001 foot-and-mouth epidemic” (as part of MCMC Applications session).


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

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

• 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).”


• 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.”