
Research Group

Dirk Douwes-Schultz (CANSSI Distinguished PDF) (Sept 2024 –)

Hidden Markov individual-level epidemic models
Co-supervised with Alex Schmidt, McGill University

Jessica Pavani (PDF) (Jan 2025 –)

Behavioural-change heterogeneity in epidemic models
Co-supervised with Alex Schmidt, McGill University

Ruoyu Li (PhD candidate, Biostatistics) (Jan 2022 –)

Hospital-acquired antimicrobial resistant infections
Co-supervised with Jenine Leal, University of Calgary

Mili Roy (PhD candidate, Biostatistics) (March 2022 –)

Joint Modelling of Correlated Data
Co-supervised with Tolu Sajobi, University of Calgary

Yirao Zhang (PhD candidate, Biostatistics) (Sept 2022 –)

Composite spatial individual-level models of disease transmission
Co-supervised with Lorna Deeth, University of Guelph

Haydn Hornbeck (PhD candidate, Computer Science) (Sept. 2022 –)

Curve-fitting approaches to COVID-19 forecasting
Co-supervised with Usman Alim, University of Calgary

Sorif Hossein (PhD student, Biostatistics) (Sept 2024 –)

Behavioural change epidemic models incorporating noisy alarm functions
Co-supervised with Gyanendra Pokharel, University of Winnipeg

Md Iqramul Haq (PhD student, Veterinary Medical Sciences) (Jan. 2025 –)

Analysis of antimicrobial resistance data using modern statistical approaches
Co-supervised with Diego Nobrega, University of Calgary

Yicheng Mao (Visiting PhD student, Statistics) (May 2025 –)

Population memory mechanisms in behavioural change epidemic models
Co-supervised with Lorna Deeth, University of Guelph

Parker Wieck (MSc student, Statistics)	(Sept 2024 –)
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Fast Python-based inference for spatial disease models

Autumn Palichuk (MSc student, Biostatistics)	(Sept 2025 –)
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TBD

Past Members

Raja Ben Hajria (Postdoctoral Research Fellow)	(Fall 2021 – Fall 2023)
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Hidden Markov Individual-level Models of Disease Transmission
Co-supervised with Alex Schmidt, McGill University

Caitlin Ward (CANSSI Distinguished PDF)	(Fall 2021 – Fall 2022)
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Behavioural-change individual-level models of disease transmission
Co-supervised with Alex Schmidt, McGill University

David Vickers (Postdoctoral Research Fellow)	(Fall 2021 – Fall 2022)
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Modelling COVID-19 pandemic spread
Co-supervised with Tyler Williamson, UCalgary

Leila Amiri (Postdoctoral Research Fellow)	(Fall 2019 – Fall 2021)
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Spatial models for infectious disease transmission in heterogeneous systems
Co-supervised with Mahmoud Torabi, University of Manitoba

Mojtaba Pasha (Postdoctoral Research Fellow)	(Summer 2019 – Summer 2021)
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Optimal design of control charts

(Grace) Pui Sze Kwong (Postdoctoral Research Fellow)	(Fall 2009 – Fall 2014)
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Spatio-temporal analysis of porcine respiratory and reproductive syndrome in Ontario /
Efficient forms of individual level models for infectious disease spread

Gyanendra Pokharel (Postdoctoral research fellow)	(May 2015 – July 2018)
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Approximate methods of inference for spatial infectious disease models /
Bayesian clinical trials and patient centred medicine

Vineetha Warriyar (Postdoctoral research fellow) (May 2016 – Aug 2018)
Democratizing complex infectious disease data analysis

Lorna Deeth (PhD, Statistics) (Fall 2007 – Winter 2013)
Latent-conditional models of infectious disease and related topics

Lin Zhang (PhD, Statistics) (Fall 2009 – Fall 2013)
Time-varying individual-level infectious disease models

Jourdan Gold (PhD, Statistics) (Fall 2008 – Winter 2015)
Computational inference for network-based individual-level models of disease transmission
Co-supervised with Zeny Feng, University of Guelph

Rajat Malik (PhD, Statistics) (Fall 2010 – Winter 2015)
Sampling-based likelihood approximations for infectious disease models and related topics

Nadia Bifulchi (PhD, Statistics) (Fall 2010 – Winter 2015)
Individual-level models for use with incomplete infectious disease data and related topics
Co-supervised with Zeny Feng, University of Guelph

Gyanendra Pokharel (PhD, Statistics) (Fall 2011 – Winter 2015)
Back-calculation, classification & emulation-based inference for spatial disease models

Razvan Romanescu (PhD, Statistics) (Fall 2012 – Summer 2016)
Modelling heterogeneity in infectious disease systems for inference and monitoring

Waleed Almutiry (PhD, Statistics) (Jan 2014 – Aug 2018)
Network uncertainty in infectious disease systems

Justin Angevaare (PhD, Statistics) (Fall 2014 – Fall 2020)
Infectious disease models incorporating pathogen genomic sequence data
Co-supervised with Zeny Feng, University of Guelph

Carolyn Augusta (PhD, Statistics) (Fall 2014 – Fall 2020)
Deep learning of infectious disease systems
Co-supervised with Graham Taylor, University of Guelph

Syed Ali Naqvi (PhD, Biostatistics) (Sept. 2017 – Dec. 2021)

Machine learning tools for understanding mastitis epidemiology
Co-supervised with Herman Barkema, University of Calgary

Md. Mahsin (PhD, Statistics) (Sept. 2015 – June 2022)

Modelling spatial heterogeneity in infectious disease data

Kamso Mohammed Mujaab (PhD, Biostatistics) (Sept. 2018 – May 2024)

A novel semi-automated approach for trial identification and evaluation
of the certainty of evidence from network meta-analyses
Co-supervised with Glen Hazelwood, University of Calgary

Chinmoy Rahul Roy (PhD, Biostatistics) (Sept. 2019 – Sept. 2024)

Non-parametric spatial infectious disease models

Madeline Ward (PhD, Biostatistics) (Sept 2020 – Jan 2025)

Bayesian epidemic models with mechanisms for behaviour change
Co-supervised with Lorna Deeth, University of Guelph

Tahmina Akter (PhD, Biostatistics) (Sept. 2019 – March 2025)

Variable selection in infectious disease models

Babak Habibzadeh (MSc, Statistics & URA) (Fall 2009)

Misspecification of latent and infectious periods in space-time infectious disease models

Hau Yi (Helen) Chung (MSc, Statistics) (Winter 2009)

Individual-level models applied to an equine-influenza outbreak

Sanjeena Dang (née Subedi) (MSc, Statistics & URA) (Summer 2009)

SNP selection methods: modelling the expected breeding value of Holstein Cattle

Abbie Gardener (MSc, Statistics & URA) (Summer 2010)

Goodness-of-fit measures for individual-level infectious disease models in a Bayesian framework

Irene Vrbik (MSc, Statistics) (Summer 2010)

Modelling the spatio-temporal dynamics of combustion

- Daria (Dasha) Martchenko (MSc, Statistics)** (Winter 2011)
Designing experiments to assess the spatio-temporal dynamics of crop disease.
- Mingying Fang (MSc, Statistics)** (Summer 2011)
Generalizing individual-level models of infectious disease spread
- Xuan Fang (MSc, Statistics)** (Winter 2012)
Computational gains via a discretization of the parameter space in individual-level models of infectious disease
- Angie Dobbs (MSc, Statistics)** (Winter 2012)
On computational efficiency and model approximation for spatial individual-level infectious disease models
- Longyao (Chloe) Cai (MSc, Statistics)** (Fall 2011 – Winter 2013)
Logistic growth models for estimating vaccination effects in transmission experiments
- Carolyn Augusta (MSc, Statistics)** (Sept 2012 – Summer 2014)
Fast inference for spatial infectious disease models
- Lea Enns (MSc, Statistics)** (Fall 2014 – Fall 2015)
Individual level models of infectious disease transmission for animal experiments
- Susannah Ripley (USRA)** (Summer 2014)
Random forest-based insect species identification
- Anu Stanley (MSc, Statistics & URA)** (Fall 2013 – Winter 2015)
Early prediction of seasonal influenza using school absenteeism data
- Tahsin Ferdous (MSc, Biostatistics)** (Sept. 2017 – Sept 2019)
On the effect of ignoring within-unit infectious disease dynamics when modelling spatial transmission
- Behnaz Jafari (MSc, Statistics)** (Sept. 2017 – Jan 2020)
Bias in individual-level infectious disease models
- Thet Nyein (MSc, Statistics)** (Sept 2021 – June 2023)
Data subset-based methods of inference for spatial epidemic models
Co-supervised with Lorna Deeth, University of Guelph

Danika Lipman (MSc, Statistics) (Sept 2022 – August 2023)

A Bayesian variable selection model for semi-continuous responses using Gaussian processes

Main supervisor: Thierry Chekouo, University of Minnesota

Matthew Baxter (MSc, Artificial Intelligence) (Fall 2021 – Winter 2023)

Parameter estimation using random forests for two-stage individual-level models of infectious disease spread

Co-supervised with Lorna Deeth, University of Guelph

Jeffrey Peitsch (MSc student, Biostatistics) (Sept 2023 – May 2025)

Directional spatial individual-level models of disease transmission

Co-supervised with Gyanendra Pokharel, University of Winnipeg

William Lee (URA) (May 2016 – Dec. 2016)

Analysis of infectious disease surveillance data

Madeline Ward (URA) (May 2018 – Aug 2018)

Approaches to disease surveillance using predictive covariates

Co-supervised with Lorna Deeth, University of Guelph

Arthur Novaes de Amorim (GRA) (May 2019 – April 2020)

Predicting magnitude, timing, peak and duration of influenza at ER level

Co-supervised with Vineet Saini, Alberta Health Services

Zeyi Liu (GRA) (March 2020 – Nov. 2020)

Spatial metapopulation models of Covid-19

Emil Hodzic-Santor (URA) (May 2022 – Aug 2022 & May 2023 – Aug 2023)

Edge effects in spatial epidemic models

Evans Mensah (GRA) (Nov 2023 – June 2024)

Forecasting with behavioural-change population-level epidemic models

Jensen MacLean (URA student) (May 2024 – Aug. 2024 & May 2025 – Aug. 2025)

Patterns of behavioural-change in historic epidemic data