## Research Group

### Current Members

**Raja Ben Hajria (Postdoctoral Research Fellow)** (Fall 2021 – )

Hidden Markov Individual-level Models of Disease Transmission
Co-supervised with Alex Schmidt, McGill University

**David Vickers (Postdoctoral Research Fellow)** (Fall 2021 – )

Modelling COVID-19 pandemic spread
Co-supervised with Tyler Williamson, UCalgary

---

**Mark Lowerison (PhD candidate, Biostatistics)** (Sept. 2015 – )

Modelling cattle movement networks
Co-supervised with Herman Barkema, University of Calgary

**Kamso Mohammed Mujaab (PhD candidate, Biostatistics)** (Sept. 2018 – )

Bayesian clinical trials & network meta-analyses
Co-supervised with Glen Hazelwood, University of Calgary

**Tahmina Akter (PhD Candidate, Biostatistics)** (Sept. 2019 – )

Variable selection in infectious disease models

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

Non-parametric spatial infectious disease models

**Madeline Ward (PhD student, Biostatistics)** (Sept 2020 – )

Behavioural-change individual-level models of disease transmission
Co-supervised with Lorna Deeth, University of Guelph

**Ruoyu Li (PhD student, Biostatistics)** (Jan 2022 – )

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

**Mili Roy (PhD student, Biostatistics)** (March 2022 – )

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

**Yirao Zhang (PhD student, Biostatistics)** (Sept 2022 – )

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

---

**Matthew Baxter (MSc student, Artificial Intelligence)** (Sept 2021 – )

Machine learning-based inference for epidemic models
Co-supervised with Lorna Deeth, University of Guelph

**Thet Nyein (MSc student, Statistics)** (Sept 2021 – )

Data subset-based methods of inference for spatial epidemic models
Co-supervised with Lorna Deeth, University of Guelph

**Danika Lipman (MSc student, Statistics)** (Sept 2022 – )

TBD
Co-supervised with Thierry Chekouo, University of Minnesota

**Salha Qahl (MSc student, Biostatistics)** (Sept 2022 – )

Classification-based inference for infectious disease systems

---

## Past Members

**Caitlin Ward (Postdoctoral Research Fellow)** (Fall 2021 – Fall 2022)

Behavioural-change individual-level models of disease transmission
Co-supervised with Alex Schmidt, McGill University

**Leila Amiri (Postdoctoral Research Fellow)** (Fall 2019 – Fall 2021 )

Spatial models for infectious disease transmission in hetereogeneous systems
Co-supervised with Mahmoud Torabi, University of Manitoba

**Mojtaba Aghajanpoorpasha (Postdoctoral Research Fellow)** (Summer 2019 – Summer 2021 )

Optimal design of control charts

**(Grace) Pui Sze Kwong (Postdoctoral Research Fellow)** (Fall 2009 – Fall 2014)

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)

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
infectious disease transmission

**Rajat Malik (PhD, Statistics)** (Fall 2010 – Winter 2015)

Sampling-based likelihood approximations for infectious disease models
and other related topics

**Nadia Bifolchi (PhD, Statistics)** (Fall 2010 – Winter 2015)

Individual-level models for use with incomplete infectious disease data and related topics

**Gyanendra Pokharel (PhD, Statistics)** (Fall 2011 – Winter 2015)

Back-calculation, classification, and emulation-based inference for spatial infectious 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 candidate, Statistics)** (Sept. 2015 – June 2022 )

Modelling spatial heterogeneity in infectious disease data

---

**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

**Zeyi Liu (RA)** (March 2020 – Nov. 2020)

Spatial metapopulation models of Covid-19

**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

**Arthur Novaes de Amorim (RA)** (May 2019 – April 2020)

Predicting magnitude, timing, peak and duration of influenza at ER level
Co-supervised with Vineet Saini, Alberta Health Services

**Emil Hodzic-Santor (URA, Statistics)** (May 2022 – Aug 2022)

Edge effects in spatial epidemic models

---

**Scott Hunt (PhD student – withdrew)** (Fall 2012 – Spring 2014)

Bayesian optimal design of animal transmission experiments

**Tulsi Paudel (PhD student – withdrew)** (Fall 2012 – Jan 2016)

Identifying super-spreaders in spatial infectious disease systems