

Health Research Methodology Program

Biostatistics

Department of Clinical Epidemiology & Biostatistics

The Health Research Methodology graduate program is pleased to announce an exciting and unique PhD program for MSc graduates from Statistics, Biostatistics or equivalent who wish to pursue doctoral work in Biostatistics.

Effective statistical collaboration in a multidisciplinary health research environment requires skills that are not taught in the usual statistics programs - graduates often learn such skills through trial-and-error. The biostatistics field of specialization uses a novel approach to research training by providing unparalleled graduate education that bridges the gap between statistical theory and health research through mentorship, problem-based classroom learning, a comprehensive examination and dissertation. The program trains highly marketable [and sought after] graduates who have the ability not only to conduct their own independent research relating to biostatistical concepts, but also the capability to collaborate with clinicians and research groups in answering complex health research questions.

All students are required to complete the biostatistical collaboration course which promotes enthusiasm and commitment to excellence in statistical collaboration in health research, and enhances communication of statistical issues to non-statistician collaborators. Students in the course and program experience a unique opportunity where they work through research problems under the guidance and support from a senior faculty statistician mentor in addition to their regular thesis supervisor.

Photo: Health Sciences Library Heersink Reading Pavilion



Students specializing in biostatistics complete their coursework and research in various areas including:

- Regression analysis
- Bayesian and non-Bayesian statistics
- Missing data
- Theory of measurement
- Q-methodology
- Analysis of survey data
- Statistical and methodological issues involved in clinical trials
- Health quality improvement
- Statistical techniques used in meta-analysis
- The application of statistics in health

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Faculty Mentors & Research Areas | Biostatistics

Eleanor Pullenayegum (BA Hons, CASM, PhD)
Assistant Professor
Field Leader, Biostatistical Field of Specialization
Research: Longitudinal data, Semi-parametric regression models, Incomplete data

Lehana Thabane (BSc, MSc, PhD)
Professor
Field Leader, Biostatistics Field of Specialization
Research: Regression models, Multivariate analysis, Clinical Trials, Bayesian and non-Bayesian inference

Noori Akhtar-Danesh (BSc, MSc, PhD)
Associate Professor, School of Nursing
Research: Survival analysis, Meta-analysis, Analysis of survey data, Multilevel modelling, Longitudinal data analysis, Q-methodology, Evaluation of surrogate end-points

Joseph Beyene (BSc, MSc, PhD)
Assistant Professor (PT), University of Toronto
Research: Systematic reviews and meta-analysis, Predictive modelling, Statistical methods in genetics and genomics

Patrick Brown (BA, MSc, PhD)
Assistant Professor (PT)
Research: Developing models and inference methods for spatial & spatio-temporal data, mapping disease incidence and estimating effects of risk factors

Angelo Canty (BSc, MSc, PhD)
Associate Professor, Dept. of Mathematics & Statistics
Research: Computational statistics, Monte Carlo Inference, Bootstrap/resampling methods, Graphical methods, Microarray analysis, Statistical genetics

Richard Cook (BSc, MMath, PhD)
Professor (PT), University of Waterloo
Research: Development of statistical methods for survival and life history analysis, Methods for longitudinal and clustered data, Incomplete data, Clinical trial design

Forough Farrokhyar (BSc, MPhil, PhD)
Assistant Clinical Professor, Dept. of Surgery
Research: Design and analysis of surgical trials and observational studies in surgery, Multivariate analysis and meta-analysis

Lauren Griffith (BS, MS)
Assistant Professor
Research: Systematic reviews and meta-analysis, Predictive modelling, Clinical research

Jemila Hamid (BSc, MSc, PhD)
Assistant Professor, Department of Oncology
Research: Multivariate Methods, Growth curves and methods for longitudinal data, Statistical methods for diagnostic medicine, Statistical Methods for High-dimensional data including applications in genetics and genomics

Steven Hanna (BSc, MA, PhD)
Associate Professor
Assistan Dean, HRM
Research: Analysis of longitudinal data, Latent variable structural equation, Multilevel models, Social aspects of health/epidemiology

Gregory Pond (BSc, MSc, PhD, PStat)
Assistant Professor, Department of Oncology
Research: Biostatistics, Cancer research, Clinical trial design and analysis

Harry Shannon (BA, MSc, PhD)
Professor
Research: Design and analysis of epidemiological studies, Workplace health and safety, Organizational factors and interventions to create safe workplaces, Global issues in work health and safety

Stephen Walter (BSc, ARCS, PhD)
Professor
Research: Design and analysis of research studies, Risk assessment and communication, Evaluation of diagnostic and screening data

Changchun Xie (BSc, MSc, MSc, PhD)
Assistant Professor
Research: Hierarchical models, Frailty models, Nonparametric, Multivariate statistical analysis

Other Faculty Mentors

David Earn (BSc, CASM, MSc, PhD)
Kevin Eva (BSc, PhD)
Gary Foster (BA, PhD)

Charlie Goldsmith (BSc, MSc, PhD)
Andrew Mente (PhD)
Geoff Norman (BSc, MA, PhD)
Robin Roberts (BSc, MSc)

