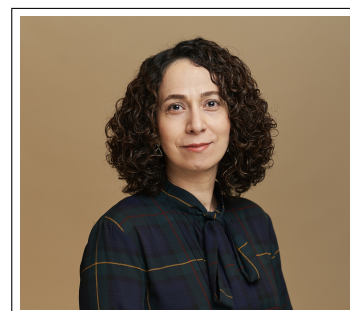


# Zeinab Mashreghi



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## Personal Information

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## Education

- 2014 **Ph.D. in Statistics**, *Université de Montréal*.  
Thesis title: Resampling Methods in Survey Methodology.  
Supervisors: Christian Léger and David Haziza.
- 2007 **M.Sc. in Statistics**, *Université de Montréal*.  
Direct promotion to Ph.D program.
- 2006 **M.Sc. in Pure Mathematics**, *Université Laval*.  
Supervisor: Thomas Ransford.
- 2003 **B.Sc. in Applied Mathematics**, *University of Kashan*.

## Employment

- July 2020– **Associate Professor**.  
Department of Mathematics and Statistics, University of Winnipeg.
- October 2021– **Adjunct Professor**.  
Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba.

- 2016-2020 **Assistant Professor.**  
Department of Mathematics and Statistics, University of Winnipeg.
- 2015 **Visiting Researcher.**  
Statistics Laboratory, Centre de Recherche Mathématiques.
- 2012 & 2014 **Lecturer.**  
Department of Mathematics and Statistics, Université de Montréal.
- Fall 2010 **Trainee, *Analyzing the Data of the Research and Development in Canadian Industry Survey.***  
Statistics Canada, MITACS program.

## Research Area

Sampling Methodology  
 Bootstrap Resampling Methods  
 Variance Estimation  
 Nonresponse Handling  
 High-dimensional Survey Data  
 R Package Development  
 Infectious Disease Modelling

## Honors and Awards

- 2021-2022  
 2020-2021  
 2019-2020  
 2016-2017 **The University of Winnipeg Merit Award.** The Merit Award is an annual recognition by the University of Winnipeg, honoring exceptional performance and significant contributions made by faculty members.
- 2014-2015 **Dean's Honor List of the Faculty of Graduate Studies.**  
Université de Montréal
- 2011-2012 **Presentation Award.**  
Department of mathematics and statistics, Université de Montréal
- 2010 **Student Research Presentation Award of the Statistical Society of Canada.**
- 2010 **Case Studies in Data Analysis Award of the Statistical Society of Canada, (*jointly with Audrey Béliveau and Valérie Patenaude*).**
- 2009 **Serge-Tardif Award.**  
Department of mathematics and statistics, Université de Montréal.

2003 **Ranked First Graduate.**  
University of Kashan

## Research Funding History

- 2017-2024 **NSERC Discovery Grant**, The Natural Sciences and Engineering Research Council of Canada (NSERC), \$98,000.
- 2022-2023 **Major Research Grant**, University of Winnipeg, \$7,500.
- 2016-2018 **Start-up Grant**, University of Winnipeg, \$5,000.
- 2011-2012 **Bourse de Fin d'Études Doctorales**, *Faculty of Graduate Studies*, Université de Montréal, \$15,600.
- 2010-2011 **Bourse d'Excellence**, *Faculty of Graduate Studies and Department of Mathematics and Statistics*, Université de Montréal, \$7,000.
- 2010-2011 **MITACS Scholarship**, *Canada*, \$13,000.
- 2010-2011 **ISM Scholarship**, *Ph.D.*, \$10,000.
- & 2008-2009
- 2009-2010 **FQRNT Scholarship**, *Ph.D.*, \$27,000 (for 4 semesters).
- 2007-2009 **Promotion Scholarship (Bourse de passage direct au doctorat)**, *Faculty of Graduate Studies*, Université de Montréal, \$14,000.
- 2006-2007 **Admission Scholarship**, *M.Sc.*, Department of Mathematics and Statistics, Université de Montréal, \$10,000.
- 2004-2006 **ISM Scholarship**, *M.Sc.*, \$10,000.

## Publications

Hasan M., Torabi, M. and Mashreghi, Z. (2024), *Statistical Modeling of Pneumonia Transmission Rates in Manitoba.*, Working Paper.

Amiri, N., Torabi, M. and Mashreghi, Z. (2024), *Examining Leukemia Diagnosis at Provincial and Territorial Levels Across Canada.*, Working Paper.

Mashreghi, Z. (2024), *bootsurv: Bootstrap Resampling Methods for Survey Data in R.*, Working Paper.

Abed, A., Torabi, M. and Mashreghi, Z. (2023). *Gonorrhea Cluster Detection in Manitoba, Canada: Spatial, Temporal, and Spatio-temporal Analysis*, Submitted.

Mashreghi Z. and Nasri M. (2023), *Bregman Distance Regularization for Nonsmooth and Nonconvex Optimization*, Canadian Mathematical Bulletin, 1-10

Mashreghi, Z. and Deng, H. (2023), *A Rescaling Bootstrap Approach for Imputed Survey Data*, Journal of Survey Statistics and Methodology, 11(1), 234-259.

Chen S., Haziza, D. and Mashreghi, Z. (2022), *A Comparison of Existing Bootstrap Algorithms for Multi-Stage Sampling Designs*, Stats, 5, 512-537.

Chen S., Haziza, D. and Mashreghi, Z. (2020), *Multiply Robust Bootstrap Variance Estimation in the Presence of Singly Imputed Survey Data*, Journal of Survey Statistics and Methodology, 9(4), 810–832.

Chen S., Haziza, D., Léger, C. and Mashreghi, Z. (2019), *Pseudo-population Bootstrap Methods for Imputed Survey Data*, Biometrika, 106(2), 369-384.

Mashreghi, Z., Haziza, D. and Léger, C. (2016), *A Survey of Bootstrap Methods in Finite Population Sampling*, Statistics Surveys, 10, 1-52.

Mashreghi, Z., Léger, C. and Haziza, D. (2014), *Bootstrap Methods for Imputed Data from Regression, Ratio and Hot deck Imputation*, The Canadian Journal of Statistics, 42(1), 142-167.

Mashreghi Z. (2014) *Méthodes de rééchantillonnage en méthodologie d'enquête*, Université de Montréal, Ph.D. Thesis.

Mashreghi Z. (2010) *Bootstrap Variance Estimation in the Presence of Imputed Data*. Report Submitted to Statistics Canada at End of MITACS Internship.

Mashreghi Z. (2006) *L'inégalité de type fort pour la capacité*, Université Laval, M.Sc. Thesis.

Mashreghi, J., and Mashreghi, Z. (2001), *On the Closed Form of Power Series*, Crux Mathematicorum, 27(37), 436-439.

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## Supervision

### Graduate Students

M.Sc. Student **Narges Amiri (2023–)**, *Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba*, Co-supervision with Dr. Mahmoud Torabi.

Ph.D. Student **Amin Abed (2021–)**, *Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba*, Co-supervision with Dr. Mahmoud Torabi.  
Thesis Title: Advancing Spatio-temporal Modelling of Infectious Diseases Transmission Dynamics.

M.Sc. Student **Md. Hasan (2021-2023)**, *Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba*, Co-supervision with Dr. Mahmoud Torabi.  
Thesis title: Statistical Modelling of Pneumonia Transmission Rates in Manitoba

M.Sc. Student **Amin Abed (2015-2017)**, *University of Isfahan, Iran*, Co-supervision with Dr. Nasrolah Iranpanah.  
Thesis title: Bootstrap Variance Estimators for Unequal Probability Sampling Designs.

### Undergraduate Students

B.Sc. Student **Sophia Perron (Fall 2023)**, *University of Winnipeg*.  
Project Title: Bootstrap Resampling Methods for Imputed Survey Data in R.

- Research Assistant **Narges Amiri (Summer 2023)**, *Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba*, Co-supervision with Dr. Mahmoud Torabi.  
Project Title: Examining Leukemia Diagnosis at Provincial and Territorial Levels Across Canada.
- NSERC USRA Student **Sophia Perron (Summer 2023)**, *University of Winnipeg*, Co-supervision with Dr. Melody Ghahramani.  
Project title: Modelling of Under-reported Weekly COVID-19 Cases in Manitoba.
- NSERC USRA Student **Sophia Perron (Summer 2022)**, *University of Winnipeg*, Co-supervision with Dr. Melody Ghahramani.  
Project title: Modelling Covid-19 Pandemic Waves in Manitoba Between March 2020 Until November 2021.
- B.Sc. Student **Narges Amiri (Summer 2020 & Summer 2021)**, *University of Winnipeg*.  
Project title: Robust Inference in the Presence of Missing Survey Data.
- B.Sc. Student **Sophia Perron (Summer 2020 & Summer 2021)**, *University of Winnipeg*.  
Project title: Bootstrap Resampling Methods in the Presence of Unit Nonresponse in Surveys.
- B.Sc. Student **Huiqi Deng (Winter & Summer 2019)**, *University of Winnipeg*.  
Project title: Rescaling Bootstrap Method for Imputed Survey Data.
- B.Sc. Student **Joshua Vince S. Manalo (Winter & Summer 2018)**, *University of Winnipeg*.  
Project title: Bootstrap Resampling Methods for Missing Survey Data with Unequal Response Probabilities.
- B.Sc. Student **Scott White (Summer 2016)**, *University of Winnipeg*, Co-supervision with Dr. Melody Ghahramani.  
Project title: Application of Generalized Bootstrap for Autocorrelated Count Data.

## Teaching Experience

Mathematical Statistics II (STAT/MATH-3612), University of Winnipeg.  
 Survey Sampling I (STAT-2301), University of Winnipeg.  
 Survey Sampling II (STAT-3302), University of Winnipeg.  
 Applied Regression Analysis (STAT-3103), University of Winnipeg.  
 Statistical Analysis I (STAT-1301), University of Winnipeg.  
 Statistical Analysis II (STAT-1302), University of Winnipeg.  
 Elementary Biological Statistics I (STAT-1501), University of Winnipeg.  
 Introduction to Statistics (STT-1903), Université de Montréal.  
 Introduction to Statistics (STT-1971), Université de Montréal.

## Talks

### Oral Presentation

- August 2021 *Multiply robust bootstrap variance estimation in the presence of imputed survey data*, Joint Statistical Meeting 2021 (invited).
- July 2021 *A rescaling bootstrap method for variance estimation in the presence of missing survey data*, Statistics 2021 Canada, 6th Canadian Conference in Applied Statistics (invited).
- April 2021 *Multiply robust bootstrap variance estimation*, University of Winnipeg.
- August 2020 *A rescaling bootstrap method for imputed survey data*, Joint Statistical Meeting.
- October 2017 *Resampling procedures in the presence of missing data applied to high entropy sampling designs*, University of Manitoba (invited).
- May 2017 *Bootstrap resampling methods for survey data*, University of Isfahan (invited).
- July 2015 *Bootstrap variance estimators in the presence of imputed survey data*, University of Winnipeg.
- November 2014 *Resampling bootstrap methods in the presence of imputed survey data*, HEC Montréal.
- September 2014 *Resampling methods in survey methodology*, Université de Montréal.
- January 2014 *On bootstrap variance estimator for imputed survey data*, Shahid Beheshti University, Iran.
- October 2013 *A pseudo-population bootstrap approach in the presence of imputed survey data*, Université de Sherbrooke.
- August 2013 *Pseudo-population bootstrap methods for imputed survey data*, Joint Statistical Meetings, Montréal.
- April 2012 *The independent bootstrap method for imputed survey data*, Graduate Student Seminars in Statistics, Université de Montréal.
- June 2011 *On bootstrap variance estimator for survey data imputed by regression, ratio or hot-deck imputation methods*, Annual Meeting of the Statistical Society of Canada, Wolfville.
- May 2011 *Bootstrap procedures for imputed survey data*, Université Laval.
- December 2010 *Bootstrap variance estimation in the presence of imputed data with an application in the Research and Development in Canadian Industry Survey*, Statistics Canada, Ottawa.
- May 2010 *Bootstrap variance estimation in the presence of imputed data*, Annual Meeting of the Statistical Society of Canada, Québec.

### Case Study

- May 2010 *The effects of photo-interpreted variables in the estimation of stand-level merchantable volumes in the Province of Québec*, Annual Meeting of the Statistical Society of Canada, Québec.

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## Participation in Conferences and Seminars

- August 2023 CANSSI Prairies Workshop on Fundamentals of Causal Inference: With R, University of Winnipeg.
- June 2023 Annual Meeting of the Statistical Society of Canada, Ottawa.
- July 2022 Summer School on Modern Methods in Survey Sampling, University of Ottawa.
- May 2022 Inaugural CANSSI Prairies Summit, University of Manitoba.
- August 2021 Joint Statistical Meetings, Virtual Conference.
- July 2021 Statistics 2021 Canada, 6th Canadian Conference in Applied Statistics, Virtual Conference.
- August 2020 Joint Statistical Meetings, Virtual Conference.
- November 2019 International Data Science Conference, University of Manitoba.
- May 2018 CANSSI-CRM Workshop on Statistical Inference for complex surveys, CRM.
- June 2017 Annual Meeting of the Statistical Society of Canada, Winnipeg.
- May 2016 Annual Meeting of the Statistical Society of Canada, St. Catharines.
- October 2015 CRM-CANSSI Workshop on Statistical Inference for Complex Surveys With Missing Observations, CRM.
- June 2014 Workshop for Statisticians and Social Scientists, CRM.
- August 2013 Joint Statistical Meetings, Montréal.
- June 2012 Fourth International Conference on Establishment Surveys, Montréal.
- June 2012 Annual Meeting of the Statistical Society of Canada, Guelph.
- May 2012 Fields Institute Symposium on the Analysis of Survey Data and Small Area Estimation in honour of the 75th Birthday of Professor J.N.K. Rao, Ottawa.
- June 2011 Annual Meeting of the Statistical Society of Canada, Wolfville.
- October 2010 International Methodology Symposium, Statistics Canada, Ottawa.
- August 2010 Joint Statistical Meetings, Vancouver.
- May 2010 Annual Meeting of the Statistical Society of Canada, Québec.
- May 2009 Annual Meeting of the Statistical Society of Canada, Vancouver.
- May 2008 Meeting of the Statistical Society of Canada and the Société Française de Statistique, Ottawa.
- July 2007 Workshop on Statistical Methods for Modeling Dynamic Systems, CRM (Centre de Recherches Mathématiques).
- December 2005 Canadian Mathematical Society Meeting, Victoria.
- May 2005 Quebec-Wide Graduate Student Conference, Montréal.

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## Event Administration

- 2023-2024 President-Elect, Survey Method Section, Statistical Society of Canada.
- June 2022 Jury, Poster Presentations, Inaugural CANSSI Prairies Summit, University of Manitoba.
- April 2021 & April 2020 Abstract Reviewer, The Canadian Statistical Student Conference (CSSC).
- April 2021 & April 2016 Jury, The Manitoba Schools Science Symposium (MSSS).

- 2017-2020 Committee on Membership, Statistical Society of Canada.
- June 2016 Jury, Canadian Society for Epidemiology and Biostatistics; National Student Conference 2016.
- Winter 2012 Coordinator of the Graduate Student Seminars in Statistics, Université de Montréal.

## Service Activities, University of Winnipeg

- 2016– Member of Departmental Curriculum Committee (Statistics), Department of Mathematics and Statistics.
- 2023-2024 Departmental Review Committee, Department of Mathematics and Statistics.
- & Fall 2022
- Fall 2022 Member of Tenure, Promotion, and Continuing Appointment Committee
- & Fall 2020 (TPCAC).
- 2020-2022 Member of Senate Curriculum Committee.
- Fall 2022 Departmental Personal Committee, Department of Mathematics and Statistics.
- & 2021-2022
- & 2020-2021
- & 2018-2019
- & 2017-2018
- Winter 2021 Chair of the Departmental Curriculum Committee (Statistics), Department of
- & 2020-2021 Mathematics and Statistics.
- & 2019-2020
- 2020-2021 Member of three hiring Committees, Department of Mathematics and Statistics.
- 2019-2020 Chair of the Departmental Curriculum Committee (Statistics), Subcommittee: Honours, Data Science Stream, Department of Mathematics and Statistics.
- 2017-2020 Member of Departmental Seminar/Visiting Lecturer Committee, Department of Mathematics and Statistics.
- 2017-2018 Presentation in a Recruitment Lunch.
- 2017-2018 1C10 Liason Committee.
- One month/year Program Advisor, Department of Mathematics and Statistics.
- 2016–
- 2016-2017 Interdepartmental Library Committee.

## Reviews for Journals

Computational Statistics and Data Analysis  
 Statistical Methods & Applications  
 Journal of Agricultural, Biological, and Environmental Statistics  
 Journal of Statistical Computation and Simulation  
 TEST  
 The Canadian Journal of Statistics



## Language Skills

Persian	Native
English	Fluent
French	Fluent

## Research Leave, Delays and Interruptions

Winter 2023 & Winter 2019	Research Leave
2015 & 2013-2014	Maternity Leave