Mahmoud Torabi, PhD

Professor of Biostatistics (tenured)
Department of Community Health Sciences
University of Manitoba
Winnipeg, MB, Canada, R3E 0W3
Phone: (204) 272-3136
Email: Mahmoud.Torabi@umanitoba.ca

RESEARCH INTERESTS

Spatial and Temporal Models, Cluster Detection, Small Area Estimation, Generalized (General) Linear Mixed Models, Measurement Errors, Longitudinal Data Analysis, Survival Data Analysis, Infectious Disease Modeling

EDUCATION

Ph.D. in Statistics 2007
Carleton University

M.Sc. in Statistics 1999
National University of Iran

B.Sc. in Statistics (with Honours) 1997
National University of Iran

RESEARCH EXPERIENCE

Professor April 2020
University of Manitoba

Associate Professor April 2014–March 2020
University of Manitoba

Assistant Professor July 2010–March 2014
University of Manitoba

Post-Doctoral Fellow 2007–2010
University of Alberta

PUBLICATIONS

Statistical Methodology Papers Published in Refereed Journals:
(Research trainees shown by *)

[52A] Amiri L*, Torabi M, and Deardon R (2023). Spatial modeling of infectious diseases with covariates measurement error, *Journal of the Royal Statistical Society Series C*, to appear.

[51A] Bucyibarutaa G*, Dean CB, and Torabi M (2023). A discrete-time Susceptible-Infectious-Recovered-Susceptible model for the analysis of influenza data, *Infectious Disease Modelling*, 8 (2): 471– 483.

[50A] Amiri L*, Torabi M, and Deardon R (2023). Analyzing COVID-19 data in the Canadian province of Manitoba: a new approach, *Spatial Statistics*, 55, 100729, https://doi.org/10.1016/j.spasta.2023.100729.

[49A] Momenyan S*, and Torabi M (2022). Modeling the spatio-temporal spread of COVID-19 cases, recoveries and deaths and effects of partial and full vaccination coverage in Canada, *Scientific Reports*, 12, 17817, https://doi.org/10.1038/s41598-022-21369-z.

[48A] Sefidkar R*, Torabi M, and Kavousi A (2022). Small area estimation under a semi-parametric covariate measured with error, *Australian & New Zealand Journal of Statistics*, 64 (4): 495 – 515.

[47A] Hoque E*, Acar E, and Torabi M (2022). A time-heterogeneous D-vine copula model for unbalanced and unequally spaced longitudinal data, *Biometrics*, https://doi.org/10.1111/biom.13652.

[46A] Tadayon V, and Torabi M (2022). Sampling strategies for proportion and rate estimation in a spatially correlated population, *Spatial Statistics*, 47–100564:1–18, https://doi.org/10.1016/j.spasta.2021.100564.

[45A] Jiang J, and Torabi M (2022). Goodness-of-fit test with a robustness feature, TEST (Spanish Journal of Statistics), 31, 76–100, https://doi.org/10.1007/s11749-021-00772-0.

[44A] Torabi M, Ghosh M, Myung J, and Steel M (2021). Measurement error in linear regression models with flat tails and skewed errors, *Communications in Statistics–Theory and Methods*, 1–20; doi: 10.1080/03610926.2021.2008442.

[43A] Amiri L*, Torabi M, Deardon R, and Pickles M (2021). Spatial modeling of individual-level infectious disease transmission: tuberculosis data in Manitoba, Canada, *Statistics in Medicine*, 40 (7): 1678–1704.

[42A] Balamchi S*, and Torabi M (2021). Spatial modeling of repeated events with an application to disease mapping, *Spatial Statistics*, 42–100425:1–16.

[41A] Torabi M, and de Leon A (2021). Conditional dependence in longitudinal data analysis, *Journal of the Iranian Statistical Society (invited paper)*, 20 (1): 347–370.

[40A] Grover K*, Acar E, and Torabi M (2020). Copula-based predictions in small area estimation, *The Canadian Journal of Statistics*, 48(4): 685–711.

[39A] Jiang J, and Torabi M (2020). Sumca: Simple, Unified, Monte-Carlo Assisted approach to second-order unbiased MSPE estimation, *Journal of Royal Statistical Society, Series B*, 82, 467–485.

[38A] Torabi M, and Jiang J (2020). Estimation of mean squared prediction error of empirically spatial predictor of small area means under a linear mixed model, *Journal of Statistical Planning and Inference*, 208, 82–93.

[37A] Torabi M (2019). Spatial generalized linear mixed models in small area estimation, *The Canadian Journal of Statistics*, 47, 426–437.

[36A] Tadayon V*, and Torabi M (2019). Spatial models for non-Gaussian data with covariates measurement error, *Environmetrics*, 30(3), e2545.

[35A] Hoque E*, and Torabi M (2018). Modeling the random effects covariance matrix for longitudinal data with covariates measurement error, *Statistics in Medicine*, 37, 4167–4184.

[34A] Shokoohi F*, and Torabi M (2018). Semi-parametric small-area estimation by combining time-series and cross-sectional data, *Australian & New Zealand Journal of Statistics*, 60, 323–342.

[33A] Datta GS, Torabi M, Rao JNK, and Liu B (2018). Small area estimation with multiple covariates measured with errors: A nested error linear regression approach of combining multiple surveys, *Journal of Multivariate Analysis*, 167, 49–59.

[32A] Torkashvand E*, Jafari Jozani M, and Torabi M (2017). Clustering in small area estimation with area-level linear mixed models, *Journal of Royal Statistical Society, Series A*, 180, 4, 1253–1279.

[31A] Torabi M (2017). Zero-inflated spatio-temporal models for disease mapping. *Biometrical Journal,* 59, 430–444.

[30A] Torkashvand E*, Jafari Jozani M, and Torabi M (2016). Constrained Bayes estimation in small area models with functional measurement error, *TEST (Spanish Journal of Statistics)*, 25, 710–730.

[29A] Torabi M (2016). Hierarchical multivariate mixture generalized linear models for the analysis of spatial data: An application to disease mapping, *Biometrical Journal,* 58, 1138–1150.

[28A] Torabi M, Lele SR, and Prasad NGN (2015). Likelihood inference for small area estimation using data cloning. *Journal of Computational Statistics and Data Analysis*, 89, 158–171.

[27A] Torabi M, and Shokoohi F* (2015). Non-parametric generalized linear mixed models in small area estimation. *The Canadian Journal of Statistics*, 43(1):82–96.

[26A] Torkashvand E*, Jafari Jozani M, Torabi M (2015). Pseudo-empirical Bayes estimation of small area means based on the James-Stein estimation in linear regression models with functional measurement error. *The Canadian Journal of Statistics*, 43(2):265–287.

[25A] Torabi M (2015). Likelihood inference for spatial generalized linear mixed models. *Journal of Communications in Statistics–Simulation and Computation*, 44(1):1692–1701.

[24A] Torabi M (2014). Spatio-temporal modeling of odds of disease. *Journal of Environmetrics*, 25, 341-350.

[23A] Torabi M (2014). Likelihood inference in spatial generalized linear mixed models with multivariate CAR models for areal data. *Spatial Statistics*, 10, 12-26.

[22A] Torabi M, and Rao JNK (2014). On small area estimation under a sub-area level model. *Journal of Multivariate Analysis*, 127, 36-55.

[21A] Torabi M (2014). Hierarchical Bayesian bivariate disease mapping: analysis of children and adults asthma visits to hospital. *Applied Statistics*, 41, 612-621.

[20A] Torabi M, and Shokoohi F* (2014). Hierarchical Bayes estimation of cross sectional and time-series data in small area estimation. *Journal of Statistical Computation and Simulation*, 84, 605-613.

[19A] Torabi M (2013). Likelihood inference in generalized linear mixed measurement error models. *Journal of Computational Statistics and Data Analysis*, 57, 549-557.

[18A] Torabi M (2013). Spatio-temporal modeling for disease mapping using CAR and B-spline

smoothing. *Journal of Environmetrics*, 24, 180-188.

[17A] Torabi M, and Rao JNK (2013). Estimation of mean squared error of model-based estimators of small area means under a nested error linear regression model. *Journal of Multivariate Analysis*, 17, 76-87.

[16A] Torabi M (2012). Small area estimation using survey weights under a nested error linear regression model with structural measurement error. *Journal of Multivariate Analysis*, 109, 52-60.

[15A] Torabi M (2012). Likelihood inference in generalized linear mixed models with two components of dispersion using data cloning. *Journal of Computational Statistics and Data Analysis*, 56, 4259-4265.

[14A] Torabi M (2012). Hierarchical Bayes estimation of spatial statistics for rates. *Journal of Statistical Planning and Inference*, 142, 358-365.

[13A] Torabi M, and Shokoohi F* (2012). Likelihood inference in small area estimation by combining time series and cross-sectional data. *Journal of Multivariate Analysis*, 111, 213-221.

[12A] Torabi M (2012). Spatial modeling using frequentist approach for disease mapping. *Applied Statistics*, 39, 2431-2439.

[11A] Torabi M (2012). Spatial disease cluster detection: An application to childhood asthma in Manitoba, Canada. *Journal of Biometrics and Biostatistics*, (invited paper), doi: 10.4172/2155-6180.S7-0010.

[10A] Torabi M, and Rosychuk RJ (2012). Hierarchical Bayesian spatio-temporal analysis of childhood cancer trends. *Journal of Geographical Analysis*, 44, 109-120.

[9A] Torabi M (2011). Small area estimation using survey weights with functional measurement error in the covariate. *Australian & New Zealand Journal of Statistics*, 53, 141-155.

[8A] Torabi M, and Rosychuk RJ (2011). Spatio-temporal modelling using B-spline for disease mapping: Analysis of childhood cancer trends. *Applied Statistics*, 38, 1769-1781.

[7A] Torabi M, and Rosychuk RJ (2011). An examination of five spatial disease clustering methodologies for the identification of childhood cancer clusters in Alberta, Canada. *Journal of Spatial and Spatio-Temporal Epidemiology*, 2, 321-330.

[6A] Torabi M, and Rao JNK (2010). The mean squared error estimators of small area means using survey weights. *The Canadian Journal of Statistics*, 38, 598-608.

[5A] Torabi M, and Rosychuk RJ (2010). Spatio-temporal modelling of disease mapping of rates. *The Canadian Journal of Statistics*, 38, 698-715.

[4A] Datta GS, Rao JNK, and Torabi M (2010). Pseudo-empirical Bayes estimation of small area means under a nested linear regression model with functional measurement errors. *Journal of Statistical Planning and Inference*, 140, 2952-2962.

[3A] Torabi M, Datta GS, and Rao JNK (2009). Empirical Bayes estimation of small area means under a nested error linear regression model with measurement errors in the covariates. *Scandinavian Journal of Statistics*, 36, 355-368.

[2A] Torabi M, and Rosychuk RJ (2008). Spatial event cluster detection using an approximate normal distribution. *International Journal of Health Geographics*, 7:61, 1- 22, (http://www.ij-healthgeographics.com/content/7/1/61).

[1A] Torabi M, and Rao JNK (2008). Small area estimation under a two-level model. *Survey Methodology*, 34, 11-17.

Applied Papers Published in Refereed Journals:

[27B] Armstrong HK, Vincent N, Bernstein CN, Bording-Jorgenson M, Veniamin S, Jovel J, Sobhan S*, Torabi M, Wine E, and El-Matary W. (2023). Gut microbiome composition and metabolic changes are correlated with sleep efficiency and disease phenotype in pediatric inflammatory bowel disease, *Journal of Sleep Medicine & Disorders*, 8(1):1131.

[26B] Romanescu R, Hu S, Nanton D, Torabi M, Tremblay-Savard O, and Ashiqul Haque Md. (2023). The effective reproductive number: modeling and prediction with application to the multi-wave Covid-19 pandemic, *Epidemics*, 44, 100708, https://doi.org/10.1016/j.epidem.2023.100708.

[25B] Riediger ND, Dahl L, Biradar RA, Mudryj AN, and Torabi M (2022). A descriptive analysis of food pantries in twelve American states: hours of operation, faith-based affiliation, and location, *BMC Public Health*, 22:525.

[24B] Dyck J*, Tate RB, Uhanova J, and Torabi M (2021). Social determinants and spatio-temporal variation of ischemic heart disease in Manitoba. *BMC Public Health*, 21:2325, https://doi.org/10.1186/s12889-021-12369-1.

[23B] Fakanye O*, Singh H, Desautels D, and Torabi M (2021). Geographical variation and factors associated with gastric cancer in Manitoba. *PLoS ONE*, 16(7): e0253650. https://doi.org/10.1371/journal.pone.0253650.

[22B] Sefidkar R*, Kavousi A, Torabi M, Hosseini S V, and Alaii H. (2020). Prediction of colorectal cancer incidence rate in the counties of Fars province, Iran: an application of small area estimation. *International Journal of Cancer Management*, 13(8): e106149.

[21B] Park DS, Han J, Torabi M, and Forget EL (2020). Managing mental health: why we need to redress the balance between healthcare spending and social spending. *BMC Public Health*, Article number 393.

[20B] Torabi M, Brenstein CN, Yu BN, Wickramasinghe L* , Blanchard JF, and Singh H (2020). Geographical variation and factors associated with inflammatory bowel disease in a central Canadian province. *Journal of Inflammatory Bowel Disease*, Oxford, 26(4):581–590.

[19B] Cui Y, Forget EL, Torabi M, Oguzoglu U, Ohinmaa A, and Zhu Y (2019). Health-related quality of life and economic burden to smoking behaviour among Canadians. *Canadian Journal of Public Health*, https://doi.org/10.17269/s41997-019-00244-x.

[18B] Cui Y, Forget EL, Zhu Y, Torabi M, and Oguzoglu U (2019). The effects of cigarette price and the amount of pocket money on youth smoking initiation and intensity in Canada. *Canadian Journal of Public Health*, 110:93–102.

[17B] Asadoorian J, Forget EL, Grace J, and Torabi M (2019). Exploring dental hygiene decision making: A quantitative study of potential organizational explanations. *Canadian Journal of Dental Hygiene*, 53(1): 7–22.

[16B] Torabi M, Galloway K* (2018). Impact of the number of regions in identifying spatial trends: An application to asthma visits to hospital. *Geospatial Health*, 13: 696.

[15B] McIntyre WF, St. John PD, Torabi M, and Tate RB (2018). Lifetime pattern of atrial

fibrillation and the risks of stroke and death in a population-based cohort of men (from The Manitoba Follow-Up Study). *American Journal of Cardiology*, 122(10): 1688–1693.

[14B] Roos L, Wall-Wieler E, and Torabi M (2018). Exploring alternative designs using "Big" administrative data. *International Journal of Population Data Science*, 3(4), https://ijpds.org/article/view/757.

[13B] Singh H, Nugent Z, Decker K, Demers A, Samaddar J, and Torabi M (2017). Geographical variation and factors associated with colorectal cancer incidence in Manitoba. *Canadian Journal of Public Health*, 108 (5-6):e558–e564 doi: 10.17269/CJPH.108.6091.

[12B] Dawe DE, Singh H, Wickramasinghe L*, Pitz MW, and Torabi M (2017). Geographical variation and factors associated with non-small cell lung cancer in Manitoba. *Canadian Respiratory Journal*, Article ID 7915905, 9 pages, https://doi.org/10.1155/2017/7915905.

[11B] Ye X, Torabi M, Lix LM, and Mahmud SM (2017). Time and spatial trends in lymphoid leukemia and lymphoma incidence and survival among children and adolescents in Manitoba, Canada: 1984-2013. *PLoS ONE*, 12(4): e0175701, https://doi.org/10.1371/journal.pone.0175701.

[10B] Torabi M, Singh H, Galloway K*, and Israels S (2015). Geographical variation in the incidence of childhood leukemia in Manitoba. *Journal of Paediatrics and Child Health*, 51, 1121–1126.

[9B] Acosta C, Cortes C, Altaweel K, MacPhee H, Hoogervorst B, Bhullar H, MacNeil B, Torabi M, Burczynski F, and Namaka MP (2015). Immune system induction of nerve growth factor in an animal model of multiple sclerosis: implications in re-myelination and myelin repair. *CNS & Neurological Disorders - Drug Targets*, 14(8):1069–1078.

[8B] Cui Y, Torabi M, Forget E, Metge C, Ye X, Moffatt M, and Oppenheimer L (2015). Geographical variation analysis of all-cause hospital readmission cases in Winnipeg, Canada. *BMC Health Services Research*, 15, 129.

[7B] Turcotte D, Doupe M, Torabi M, Intrater H, Hayward S, Esfahani F, Gomori A, and Namaka MP (2015). Nabilone as an adjunctive to gabapentin for multiple sclerosis-induced neuropathic pain: a randomized controlled trial. *Journal of Pain Medicine*, 16(1):149–159.

[6B] Torabi M, Galloway K* (2014). Geographical variation of incidence of chronic obstructive pulmonary disease in Manitoba, Canada. *International Journal of Geo-Information*, 3(3), 1039-1057.

[5B] Torabi M (2014). Bowel disorders and its spatial trend in Manitoba, Canada. *BMC Public Health*, 14:285, 1–11.

[4B] Torabi M, Green C, Nugent Z, Mahmud SM, Demers AA, Griffith J, and Singh H (2014). Geographical variation and factors associated with colorectal cancer mortality in a universal health care system. *Canadian Journal of Gastroenterology and Hepatology*, 28(4): 191–197.

[3B] Turcotte D, Doupe M, Torabi M, Gomori AJ, Ethans K, Esfahani F, Galloway K*, and Namaka MP (2014). Paroxetine versus pregabalin for the management of neuropathic pain in multiple sclerosis. *World Journal of Anesthesiology*, 3(2): 181-188.

[2B] Torabi M, Green C, Yu N, and Marrie RA (2014). Application of three focused cluster detection methods to study geographic variation in the incidence of multiple sclerosis in Manitoba, Canada. *Journal of Neuroepidemiology*, 43(1), 38-48.

[1B] Turcotte D, Doupe M, Torabi M, Intrater H, Hayward S, Esfahani F, Gomori A, Ethans K, and Namaka M (2013). Validating a pain stability algorithm for multiple sclerosis-induced

neuropathic pain: implications in pain management. *Global Journal of Immunology and Allergic Diseases*, 1: 3-11.

Published Refereed (Books and Monographs Authored):

Goldasteh A, Torabi M, and Asghari R (1999). *SPSS for Windows 6.0 Users Guide*. Tehran: Amarpardazan Co.

Theses:

Torabi M (2007). Some Contributions to Small Area Estimation. PhD Thesis, Carleton University. Supervised by JNK Rao.

Torabi M (1999). Robust Bayesian Estimation in Time Series. MSc Thesis, National University of Iran. Supervised by MR Meshkani.

GRANTS

Currently Held:

Natural Sciences and Engineering Research Council of Canada (NSERC) Emerging Infectious Diseases Modelling Initiative	*Statistical Methods for Managing Emerging Infectious Diseases*. Brown P (PI), M Torabi (Co-PI), Deardon R, Feng C, Dean C, Yi G, Susko E, Ho L, Schmidt A, Moodie E, Stephens D, Gustafson P, Bogoch I, Cowen L, Jha P	$750,000	2021–2024
NSERC Discovery Grant (DG)	*Advancing Statistical Models for Complex and Correlated Data*. M Torabi (PI)	$120,000	2021–2026

Previously Held:

NSERC Alliance COVID-19 Grant	*Modeling of COVID-19 Pandemic in Canada: Projection and Interventions*. M Torabi (PI), Deardon R, Ogden N, Loeppky C, Guidolin L, Dean C, Rosychuk R, Rees E, Feng C	$50,000	2020–2023
Research Manitoba COVID-19 Rapid Response Grant	*Projection of COVID-19 Pandemic and Possible Interventions in Manitoba*. M Torabi (PI), Deardon R, Loeppky C, Guidolin L	$68,500	2020–2023
Children's Hospital Research Institute of Manitoba (CHRIM)	*Risk factors associated with childhood leukemia in Canada*. M Torabi (PI), Israels S, Singh H, Elias B	$40,000	2018–2023
Canadian Statistical Sciences Institute, Collaborative Research Team (CANSSI-CRT)	*Spatial modeling of infectious diseases: environment and health*. M Torabi (PI), Dean C, Deardon R, Rosychuk RJ, Feng C, Rees E, Lele S, Pickles M	$180,000	2018–2022

NSERC Discovery Grant (DG)	*Advancing complex models in small area estimation and spatial statistics.* M Torabi (PI)	$135,000	2016–2021
National Science Foundation	*Workshop on advancing knowledge about spatial modeling, infectious diseases, environment and health.* M Torabi (PI), Dean C, Deardon R, Rosychuk RJ, Feng C	$5,000	2020–2020
Fields Institute for Research in Mathematical Sciences	*Workshop on advancing knowledge about spatial modeling, infectious diseases, environment and health.* M Torabi (PI), Dean C, Deardon R, Rosychuk RJ, Feng C	$16,500	2020–2020
CANSSI, Health Science Collaborating Centres	*Manitoba statistical and health sciences collaborating Centre.* M Torabi (Co-PI), Lisa Lix (PI), Elif Acar, M. Jafari, Pingzhao Hu	$10,000	2017–2020
Children's Hospital Research Institute of Manitoba (CHRIM)	*Geographical variation and related risk factors with childhood leukaemia in Manitoba.* M Torabi (PI), Israels S, Singh H, Elias B, Yu N, Ens C	$40,000	2015–2017
Prostate Cancer Canada	*The effect of antipsychotic medications on the incidence and aggressiveness of prostate cancer: a population based study* S Mahmud (PI), M Torabi, Aprikian, Franco, D Turner, Bozat-Emre, D Dawe, Alessi-Severini	$153,462	2014–2016
Manitoba Medical Service Foundation	*Temporal and spatial trends of lymphoma incidence, survival, and mortality in Manitoba* X Ye (PI), M Torabi, J Johnston, J Griffith, R Ahmed, P Skrabek, S Mahmud	$14,500	2015–2016
NSERC DG	*Small area estimation, and spatial statistics.* M Torabi	$85,000	2011–2016
Manitoba Health Research Council (MHRC)	*Disease mapping in the province of Manitoba.* M Torabi	$99,545	2012–2015
Canadian Institutes of Health Research (CIHR)	*Is a guaranteed annual income feasible and sustainable in Canada?* E Forget (PI), M Torabi, B Jackson, A Shiell, M Wolfson	$180,000	2011–2014

CIHR	*Exploring the role of established and non-traditional risk factors on diabetes and cardiovascular disease among a Manitoba first nation population.* S Bruce (PI), M Torabi, L Elliott, B Lavallee, N Riediger, M Daniel, G Shen, M Suh	$262,092	2011–2013
MHRC	*Exploring the role of established and non-traditional risk factors on diabetes and cardiovascular disease among a Manitoba first nation population.* S Bruce (PI), M Torabi, L Elliott, B Lavallee, N Riediger, M Daniel, G Shen, M Suh	$262,092	2011–2013
University of Manitoba (start-up fund)	*Biostatistical methods in health sciences.* M Torabi	$75,000	2010–2013
CIHR	*Biostatistical methods for disease cluster detection and spatial modeling.* RJ Rosychuk (PI), M Torabi, BH Rowe	$291,157	2009–2012
University of Manitoba (University Research Grants Program)	*Spatial modeling of incidence rates in the province of Manitoba.* M Torabi	$7,500	2011–2011

AWARDS AND ACADEMIC ACHIEVEMENTS

International Statistical Institute (ISI)-International Association of Survey Statisticians (IASS)	Hukum Chandra Award	Certificate	2022
Institute of Mathematical Statistics (IMS)	Faculty Travel Award (New Researchers Conference in Statistics and Probability at University of British Columbia)	$740	2010
Alberta Heritage Foundation for Medical Research (AHFMR)	Post-Doctoral Fellowship Award	$138,000	2007–2010
Carleton University	University Medal for Outstanding Graduate Work - Doctoral Level (highest medal for University)	Medal	2007
Statistical Society of Canada (SSC)	Student Travel Award	$500	2006
Fields Institute for Research in Mathematical Science	Student Travel Award	$500	2005

Center for Research in Mathematics (CRM)	Student Travel Award	$500	2005
School of Mathematics and Statistics, Carleton University	Jeffrey D. Maclean Bursary	$500	2005
School of Mathematics and Statistics, Carleton University	Dewan Chand and Ratna Devi Marwah Memorial Scholarship (as most outstanding and deserving graduate student)	$1000	2004
Ministry of Science, Research and Technology, Iran	Second Rank at the National Exam for Obtaining Scholarship to Study Abroad in Ph.D. Program in Statistics in Iran	Certificate	1999
National University of Iran	First Rank Among Students in M.Sc. Program	Certificate	1999
Ministry of Science, Research and Technology, Iran	Top Scorer at the National Entrance Exam for the M.Sc. Program in Statistics in Iran	Certificate	1997
National University of Iran	First Rank Among Students in B.Sc. Program	Certificate	1997

PRESENTATIONS

Invited Conference Presentations:

[70] Torabi M (2023). *Advancing mathematical modeling in analyzing COVID-19 data in the Canadian province of Manitoba,* Department of Statistics, University of Manitoba, Winnipeg, Manitoba, Canada.

[69] Torabi M (2023). *Spatial survival analysis: an application to lung cancer data,* 5th Seminar on Spatial Statistics and its Applications (online), Qazvin, Iran, keynote speaker.

[68] Torabi M (2023). *Spatial modeling of infectious diseases with covariates measurement error,* The ISI World Statistics Congress (WSC), Ottawa, Canada.

[67] Torabi M (2022). *Small area estimation: a novel approach on estimation of mean squared prediction error of small-area predictors,* IASS Webinar 22: Hukum Chandra prize 2022 (online), Amesterdam, The Netherlands.

[66] Torabi M (2022). *Sampling strategies for proportion and rate estimation in a spatially correlated population,* Statistics Department Seminar, Tarbiat Modares University, Tehran, Iran.

[65] Torabi M (2022). *Sampling strategies for proportion and rate estimation in a spatially correlated population,* SAE 2022: Small Area Estimation, Surveys and Data Science, University of Maryland, College Park, USA.

[64] Torabi M (2022). *Analyzing COVID-19 data in the Canadian province of Manitoba: A new approach,* Department of Mathematics and Statistics, University of Ottawa (online), Ottawa, Canada.

[63] Torabi M (2021). *Infectious disease modeling: a new approach with an application to COVID-19 data,* Iranian Statistical Society – (online), Tehran, Iran.

[62] Torabi M (2021). *A robust goodness-of-fit test for small area estimation,* 14th International Conference of the European Consortium for Informatics and Mathematics (ERCIM) on Computational and Methodological Statistics – (online), London, UK.

[61] Torabi M (2021). *A review on some recent advances in infectious disease modeling,* CANSSI Showcase – (online), Vancouver, Canada.

[60] Torabi M (2021). *Recent advances in spatial modeling of infectious diseases,* 4th Seminar on Spatial Statistics and its Applications – (online), Tehran, Iran, *Keynote Speaker.*

[59] Torabi M (2021). *A robust goodness-of-fit test for small area estimation.* SAE 2021: Conference on Big Data for Small Area Estimation – (online), Naples, Italy.

[58] Torabi M (2021). *Analyzing COVID-19 data in the Canadian province of Manitoba: A new approach.* Joint Statistical Meetings (online), Seattle, USA.

[57] Torabi M (2020). *Advancing complex models for complex data.* The 15th Iranian Statistics Conference (online), Yazd, Iran.

[56] Torabi M (2020). *Small area estimation: a novel approach on estimation of mean squared prediction error of small-area predictors.* Iranian Statistics Society's (ISS) webinars, Tehran, Iran.

[55] Torabi M (2020). *A unified approach to goodness-of-fit tests in linear mixed models.* Department of Statistics, University of Manitoba, Winnipeg, Manitoba, Canada.

[54] Torabi M (2019). *Modeling longitudinal data with measurement error in covariates.* 12th International Conference of the European Consortium for Informatics and Mathematics (ERCIM) on Computational and Methodological Statistics, London, UK.

[53] Torabi M (2019). *A unified approach to second-order unbiased mean squared error estimation of small area predictors.* International Conference on Current Trends in Survey Statistics, Singapore, Singapore.

[52] Torabi M (2019). *Measurement error in spatial models with fat tails and skewed errors.* Statistical Society of Canada Annual Meetings, Calgary, Alberta.

[51] Torabi M (2019). *Advancing knowledge about spatial modeling, infectious diseases, environment and health.* Bold Ideas Colloquium Series, Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba.

[50] Torabi M (2019).*Spatial modeling of disease mapping: an introduction.* Departmental seminar, University of Winnipeg, Winnipeg, Manitoba.

[49] Torabi M (2018).*Recent advances in generalized linear mixed models.* The 14th Iranian Statistics Conference, Shahrood, Iran.

[48] Torabi M (2018).*Mean squared prediction error estimation of small area predictors.* The 2018 International Workshop on Survey Statistics and Big Data, Nanchang, China.

[47] Torabi M (2018).*A unified approach to goodness-of-fit tests with application to small area estimation.* International Conference on Small Area Estimation and Other Topics of Current Interest in Surveys, Official Statistics, and General Statistics, Shanghai, China.

[46] Torabi M (2018).*A unified approach to second-order unbiased mean squared error estimation of small area predictors.* Workshop on Statistical Inference for Complex Surveys, Montreal, QC, Canada.

[45] Torabi M (2018).*Measures of uncertainty in small area estimation.* The 8th International Workshop on Innovative Statistical Methods, Daejeon, South Korea.

[44] Torabi M (2017). *Spatio-temporal models with excess zeros.* American Statistical Association, Joint Statistical Annual Meetings, Baltimore, MD, USA.

[43] Torabi M (2017). *Zero-inflated spatio-temporal models for small areas.* 61st World Statistics Congress Satellite Meeting on Small Area estimation, Paris, France.

[42] Torabi M (2017). *Small area estimation with covariates measurement error.* Statistical Society of Canada Annual Meetings, Winnipeg, MB, Canada.

[41] Torabi M (2017). *Small area estimation with multiple covariates measured with errors: a nested error linear regression approach of combining multiple surveys.* Contemporary Theory and Practice of Survey Sampling, Kunming, China.

[40] Torabi M (2016). *Presented a one-day workshop entitled "Small Area Estimation"*, Yazd University, Iran.

[39] Torabi M (2016). *Hierarchical multivariate mixture models for the analysis of spatial data.* International Workshop on Applied Probability, Toronto, Ontario, Canada.

[38] Torabi M (2016). *Recent developments in small area estimation.* 13th Iranian Statistical Conference, Kerman, Iran.

[37] Torabi M (2016). *Hierarchical multivariate mixture generalized linear models for the analysis of spatial data: An application to disease mapping.* Department of Statistical and Actuarial Sciences, Western University, London, Ontario, Canada.

[36] Torabi M (2016). *Recent developments in small area estimation.* Statistical Society of Canada Annual Meetings, St. Catharines, Ontario, Canada.

[35] Torabi M (2015). *Spatial generalized linear mixed models in small area estimation.* Department of Statistics, University of Manitoba, Winnipeg, Manitoba, Canada.

[34] Torabi M (2015). *Mixture models in multivariate spatial data.* Department of Mathematics and Statistics, University of Calgary, Calgary, Alberta, Canada.

[33] Torabi M (2015). *Recent advances in small area estimation.* Joint Statistical Meetings, Seattle, Washington, USA.

[32] Torabi M (2015). *Multivariate mixture spatial generalized linear mixed models.* Statistical Society of Canada Annual Meetings, Halifax, Nova Scotia.

[31] Torabi M (2015). *Spatial models for big data.* Workshop on Big Data: large complex spatial/temporal datasets, Fields Institute, Toronto, Ontario.

[30] Torabi M, Singh H, and Ahmed R (2015). *Geographical variation and corresponding risk factors of colorectal cancer in Manitoba.* Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba, Canada.

[29] Torabi M (2015). *Inference in spatial generalized linear mixed models.* Department of Biostatistics, University of Miami, Coral Gables, Florida, USA.

[28] Torabi M (2015). *Spatial generalized linear mixed models in small area estimation.* Iowa State University, Ames, IA.

[27] Torabi M (2014). *Bowel disorders and its spatial trend in Manitoba, Canada.* Canadian Research Data Centre Network 2014 National Conference, Winnipeg, Manitoba.

[26] Torabi M (2014). *Multivariate spatial generalized linear mixed models.* Statistical Society of Canada Annual Meetings, Toronto, Ontario.

[25] Torabi M (2014). *Spatial generalized linear mixed models in small area estimation.* Frontiers of Hierarchical Modeling in Observational Studies, Complex Surveys and Big Data: A Conference honouring Professor M. Ghosh, College Park, MD, USA.

[24] Torabi M (2014). *Prediction in mixed models: an application to small area estimation.* IISA Conference, Riverside, CA, USA.

[23] Torabi M (2014). *Recent advances in small area estimation.* Conference in honouring Professor N. Prasad, Banff, Alberta.

[22] Datta G, Jerry M, Torabi M, and You J. (2014). *Best predictive small area estimation in a measurement error model.* Statistical Society of Canada Annual Meetings, Toronto, Ontario.

[21] Datta G, Jerry M, Torabi M, and You J. (2014). *Best predictive small area estimation in a measurement error model.* Frontiers of Hierarchical Modeling in Observational Studies, Complex Surveys and Big Data: A Conference honouring Professor M. Ghosh, College Park, MD, USA.

[20] Torabi M (2013). *Spatio-temporal zero-inflated modeling for small area rare events.* First Asian International Statistical Institute, Satellite Meeting on Small Area Estimation, Bangkok, Thailand.

[19] Torabi M (2013). *Non-parametric small area estimation.* Joint Statistical Meetings, Montreal, Quebec.

[18] Shokoohi F, and Torabi M (2013). *Likelihood inference in small area estimation using p-spline and time series models.* Joint Statistical Meetings, Montreal, Quebec.

[17] Torabi M (2013). *Recent advances in small area estimation.* The Second Taihu International Statistics Forum, Suzhou, China.

[16] Torabi M (2013). *Small Area Estimation: Theory and Applications.* Workshop in Statistical Research and Training Data Centre, June 30–July 1, Tehran, Iran.

[15] Torabi M (2013). *Likelihood inference in spatial generalized linear mixed models with multivariate CAR models for areal data.* University of British Columbia, Vancouver, British Columbia.

[14] Torabi M (2013). *Disease mapping in the province of Manitoba.* Manitoba Institute of Child Health, Winnipeg, Manitoba.

[13] Torabi M (2013). *Biostatistical modeling and its applications.* University of Winnipeg, Winnipeg, Manitoba.

[12] Torabi M (2012). *Likelihood inference in spatio-temporal modeling of small area rare events.* First Conference of the International Society for NonParametric Statistics (ISNPS), Chalkidiki, Greece.

[11] Torabi M (2012). *Likelihood inference in spatio-temporal modeling.* Statistical Society of Canada Annual Meetings, Guelph, Ontario.

[10] Torabi M (2012). *Spatio-temporal modeling of small area rare events.* Symposium on the Analysis of Survey Data and Small Area Estimation in honour of the 75th Birthday of Professor J.N.K. Rao, Fields Institute, Carleton University, Ottawa, Ontario.

[9] Torabi M (2011). *Introduction to spatial statistics: An application to cancer data.* Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba.

[8] Torabi M (2010). *Small area estimation and measurement errors.* Department of Statistics, University of Manitoba, Winnipeg, Manitoba.

[7] Rosychuk RJ, and Torabi M (2009). *Spatio-temporal modeling for disease mapping: Analysis of childhood cancer trends.* Modeling Indirectly or Imprecisely Observed Data, Fields Workshop, London, Ontario.

[6] Torabi M (2009). *Some recent advances in small area estimation and spatial statistics.* Department of Mathematics and Statistics, Memorial University, St. John's, Newfoundland.

[5] Torabi M (2009). *Some recent advances in spatial statistics and cluster detection.* Department of Community Health Sciences, University of Manitoba, Winnipeg, Manitoba.

[4] Torabi M (2009). *Some recent advances in spatial statistics and cluster detection.* School of Public Health, University of Saskatchewan, Saskatoon, Saskatchewan.

[3] Rao JNK, Torabi M, and Datta GS (2009). *Small area estimation under nested error regression models with measurement errors in the covariates.* International Conference on Nonparametric Methods for Measurement Error Models and Related Topics, Fields Institute, Carleton University, Ottawa, Ontario.

[2] Torabi M (2008). *Some recent advances in small area estimation.* Department of Statistics, Iowa State University, Ames, Iowa.

[1] Torabi M (2008). *Some recent advances in small area estimation.* Department of Mathematics and Statistics, University of Ottawa, Ottawa, Ontario.

Conference Presentations:

[25] Dyck J, and Torabi M (2019). *Statistical models for spatially misaligned data: an application to ischemic heart disease in Manitoba.* Statistical Society of Canada Annual Meetings, Calgary, Alberta.

[24] Hoque E, Acar E, and Torabi M (2019). *A time heterogeneous D-vine copula model for unbalanced and unequally spaced longitudinal data.* Statistical Society of Canada Annual Meetings, Calgary, Alberta.

[23] Grover K, Acar E, and Torabi M (2018). *Copula-based predictions in small area estimation.* Statistical Society of Canada Annual Meetings, Montreal, Quebec.

[22] Hoque E, and Torabi M (2017). *Modeling the random effects covariance matrix for longitudinal data with covariates measurement error.* Statistical Society of Canada Annual Meetings, Winnipeg, Manitoba.

[21] Balamchi S, and Torabi M (2017). *Spatial modeling of repeated events: an application to disease mapping.* Statistical Society of Canada Annual Meetings, Winnipeg, Manitoba.

[20] Hoque E, and Torabi M (2017). *Modeling the random effects covariance matrix for longitudinal data with covariates measurement error.* Canadian Society for Epidemiology and Biostatistics: 2017 Biennial Conference, Banff, Alberta.

[19] Torabi M (2016). *Hierarchical multivariate mixture generalized linear models for the analysis of spatial data.* Australian Statistical Association, Canberra, Australia.

[18] Torkashvand E, Jafari Jozani M, and Torabi M (2014). *Pseudo-empirical Bayes estimation of small area means based on the James-Stein estimation in linear regression models with functional measurement error.* Statistical Society of Canada Annual Meetings, Toronto, Ontario.

[17] Torabi M (2013). *Spatio-temporal modeling for disease mapping.* Statistical Society of Canada Annual Meetings, Edmonton, Alberta.

[16] Shokoohi F, and Torabi M (2013). *Hierarchical Bayesian approach in small area estimation using p-spline and time series models.* Statistical Society of Canada Annual Meetings, Edmonton, Alberta.

[15] Torabi M (2011). *Likelihood inference for spatial modeling approach using data cloning.* 7th International Interdisciplinary Conference on Spatial Statistics and Geomedical Systems (GEOMED), Victoria, British Columbia.

[14] Torabi M, Lele SL, and Prasad NGN (2011). *Likelihood inference for small area estimation using data cloning.* 4th International Conference on Small Area Estimation, Trier, Germany.

[13] Torabi M (2011). *Likelihood inference in generalized linear mixed models with two components of dispersion.* Statistical Society of Canada Annual Meetings, Wolfville, Nova Scotia.

[12] Torabi M (2010). *Spatio-temporal modelling of disease mapping of rates.* 13th Meeting of New Researchers in Statistics and Probability, Vancouver, British Columbia.

[11] Torabi M, and Rosychuk RJ (2010). *Cluster detection methods on childhood cancer diagnoses based on putative sources.* Statistical Society of Canada Annual Meetings, Quebec-City, Quebec.

[10] Torabi M, and Rosychuk RJ (2009). *Spatio-temporal modeling of pediatric cancer rates in Alberta, Canada.* Women and Children Health Research Institute, Edmonton, Alberta.

[9] Torabi M, and Rosychuk RJ (2009). *An examination of five spatial disease clustering methodologies for the identification of childhood cancer clusters in Alberta, Canada.* Women and Children Health Research Institute, Edmonton, Alberta.

[8] Torabi M, and Rosychuk RJ (2009). *Spatio-temporal modeling using B-spline for disease mapping: Analysis of childhood cancer trends.* Statistical Society of Canada Annual Meetings, Vancouver, British Columbia.

[7] Torabi M, and Rosychuk RJ (2008). *Spatio-temporal modeling of disease mapping of rates: An examination of ED presentations for Asthma.* Women and Children Health Research Institute, Edmonton, Alberta.

[6] Rosychuk RJ, and Torabi M (2008). *Spatial event cluster detection using a normal approximation.* Joint Statistical Meetings, Denver, Colorado.

[5] Torabi M, and Rosychuk RJ (2008). *Spatio-temporal modeling of disease mapping of rates.* Statistical Society of Canada Annual Meetings, Ottawa, Ontario.

[4] Torabi M, and Rosychuk RJ (2007). *Spatial event cluster detection using a normal approximation.* Alberta Statisticians' Meeting, University of Calgary, Calgary, Alberta.

[3] Torabi M, and Rao JNK (2006). *On small area estimation under a sub-area level model.* Statistical Society of Canada Annual Meetings, University of Western Ontario, London, Ontario.

[2] Torabi M (2005). *Small area estimation: Theory and application.* Ottawa-Carleton Graduate Student Seminar, Carleton University, Ottawa, Ontario.

[1] Torabi M, and Rao JNK (2005). *The mean squared error estimation of nested error regression model using survey weights.* Statistical Society of Canada Annual Meetings, University of Saskatchewan, Saskatoon, Saskatchewan.

TEACHING

Lecturer 2010–2024
University of Manitoba
Courses: (**Graduate level**): Advanced Biostatistics for Community Health Sciences, Advanced Biostatistics, Biostatistics for Community Health Sciences 2, Linear and Generalized Linear Mixed Models, Statistical Methods in Spatial Epidemiology, Spatial Statistics, Longitudinal Data Analysis, Advanced Statistical Techniques in Spatial Epidemiology, Small Area Estimation
(**Undergraduate level**): Applying Statistical Methods, Applying Research Design (tutor)

Lecturer 2005–2006
Carleton University
Course: Statistical Modeling (Computational Statistics)

Teaching Assistant 2004–2006
Carleton University
Courses: (**Undergraduate level**): Business Statistics I, Business Statistics II, Computational Statistics, Elements of Probability Theory, Mathematical Statistics, Probability and Statistics, Probability Models, Regression Modeling, Survey Sampling
(**Graduate level**): Mathematical Statistics I, Modern Computational Statistics

Lecturer 2000–2002
Isfahan University, Iran
Courses: Advanced Statistical Methods, Introduction to Probability and Statistics for Librarianship, Probability and Statistics, Regression Analysis, Statistics for Geography, Statistics for Social Sciences, Statistical Methods for Educational Sciences, Time Series Analysis

Lecturer 2000–2002
Payame Noor University, Iran
Courses: Business Statistics I, Business Statistics II, Continuous Multivariate Methods, Discrete Multivariate Methods, Experimental Design, Stochastic Process, Time Series Analysis

Teaching Assistant 1997–1999
National University of Iran
Courses: Advanced Statistical Methods, Experimental Design, Nonparametric Statistics, Statistical Packages (R, SAS, SPSS), Time Series Analysis

SUPERVISION

Post-doctoral
Completed:
Leila Amiri, Department of Community Health Sciences, Oct 2018– Sept 2021
University of Manitoba, *Spatial Modeling of Infectious Diseases*, (joint supervision with R. Deardon)

Georges Bucyibaruta, Department of Statistics and Actuarial Sciences, July 2019– Sept 2021
University of Waterloo, *Spatial Modeling of Infectious Diseases*, (joint supervision with C. Dean)

Mohammad Nourmohammadi, Department of Community Health Sciences, Jan 2015–Oct 2016
University of Manitoba, *Spatial Sampling in Health Sciences*.

Farhad Shokoohi, Department of Community Health Sciences, Jan 2013–Aug 2013
University of Manitoba, *Advanced Statistical Methods in Health Sciences*.

Somayeh Momenyan, Department of Community Health Sciences, Feb 2021– Feb 2022
University of Manitoba, *Modeling of COVID-19 Pandemic in Canada: Projection and Interventions*, (joint supervision with R. Deardon)

On going:
Reyhaneh Rikhtehgaran (Research Associate), July 2023–
Department of Community Health Sciences, University of Manitoba, *Infectious Disease Modeling*.

Ruwani Herath, Department of Community Health Sciences, Nov 2023–
University of Manitoba, *Mixed Models*.

Graduate Student Supervision - University of Manitoba:
Completed:
Shamsia Sobhan, MSc, Department of Community Health Sciences, July 2021– December 2023
Spatial Survival Analysis: An Application to Lung Cancer Data in Manitoba, Supervisor.

Md. Hasan, MSc, Department of Community Health Sciences, Sept 2021– December 2023
Statistical Modeling of Pneumonia Transmission Rates in Manitoba, Co-supervisor.

Erfanul Hoque, PhD, Department of Statistics, Jan 2017– December 2022
Accounting for Heterogeneity in the Dependence Mechanism of Longitudinal Data, Co-supervisor.

Charanpal Singh, MSc, Department of Community Health Sciences, Sept 2018– December 2022
Modeling Childhood Wheezing in Small Areas in Manitoba, Supervisor.

Shabnam Balamchi, PhD, Department of Statistics, Jan 2014–April 2021
Spatial Modeling of Repeated Events, Supervisor.

Reyhane Sefidkar, PhD, Department of Biostatistics, Sept 2015– Aug 2020
Shahid Beheshti University of Medical Sciences, Iran, *Some Contributions to Small Area Estimation*, Co-supervisor.

Oluwagbenga A. Fakanye, MSc, Department of Community Health Sciences, Jan 2018– Dec 2019
Geographical Variation and Factors Associated with Gastric Cancer in Manitoba, Supervisor.

Justin Dyck, MSc, Department of Community Health Sciences, Sept 2017– Nov 2019
Spatial Analysis of Ischemic Heart Disease, Supervisor.

Kanika Grover, MSc, Department of Statistics, Sept 2016– July 2018
Copula-based Predictions in Small Area Estimation, Co-supervisor.

Erfanul Hoque, MSc, Department of Statistics, Sept 2014– Dec 2016
Longitudinal Data Analysis with Covariates Measurement Error, Supervisor.

Elaheh Torkashvand, PhD, Department of Statistics, Sept 2011– Aug 2016
Measurement Error Models in Small Area Estimation, Co-supervisor.

Doaa Ayad, MSc, Department of Statistics, Supervisor. Jan 2013– Dec 2014

Farhad Shokoohi, Visiting PhD student, Department of Statistics, Feb 2011–Sept 2011
Shahid Beheshti University, Iran, *Some Contributions to Small Area Estimation.*

Vahid Tadayon, Visiting PhD student, Department of Statistics, May 2017–Oct 2017
Shahid Chamran University, Iran, *Some Contributions to Measurement Error Models with Applications to Health Sciences.*

On going:
Justin Dyck, PhD, Department of Community Health Sciences, Sept 2021–
Some Contributions to Infectious Disease Modeling, Supervisor.

Amin Abed, PhD, Department of Community Health Sciences, Sept 2021–
Some Contributions to Small Area Estimation, (Joint with Dr. Mashreghi from U of Winnipeg).

Narges Amiri, MSc, Department of Community Health Sciences, Sept 2023–
Some Contributions to Small Area Estimation, (Joint with Dr. Mashreghi from U of Winnipeg).

Service on Thesis Committees - University of Manitoba:
Completed:
Mina Alizadeh sadrdaneshpour, PhD, Department of Economics, 2014–2020
Three Essays in Health Labor Economics, external advisor.

Lin Xue, PhD, Department of Statistics, 2015–2020
Variable Selection in Measurement Error Models, external advisor.

Ebeid Mohammed Aly, PhD, Department of Economics, 2014–2020
Three Essays in Health Economics, external advisor.

Yang Cui, PhD, Department of Community Health Sciences, 2011–2018
Consequences and Control of Tobacco use among Some Vulnerable Canadian Populations, internal advisor.

Musah Khalid, PhD, Department of Economics, 2012–2017
Three Essays on Informal Employment in Ghana, external advisor.

Rojiar Haddadian, PhD, Department of Statistics, 2010–2016
Survival Analysis and Measurement Errors, external advisor.

Mohammad Nourmohammadi, PhD, Department of Statistics, 2010–2014
Some Contributions to Rank Set Sampling, external advisor.

Saila Preveen, MSc, Department of Community Health Sciences, 2011–2014
A comparative Perception-Based Study of the Quality of Care in Primary Healthcare Clinics in Manitoba, internal advisor.

Joanna Asadoorian, PhD, Department of Community Health Sciences, 2010–2012
Exploring Dental Hygiene Clinical Decision Making- A Mixed Method Study of Potential Organizational Explanations, internal advisor.

Kelli Berzuk, PhD, School of Medical Rehabilitation, 2010–2012
Evaluation of Increasing Awareness on Pelvic Floor Muscle (PFM) Function on Pelvic Floor Dysfunction (PFD), internal advisor.

On going:
Ebtihal Ali, PhD, Department of Community Health Sciences, Sept 2015–
Economic Evaluation of Breast Milk Banking, internal advisor.

Yixiu Liu, PhD, Department of Community Health Sciences, Sept 2019–
Cause Inference in Joint Models of Longitudinal and Survival Outcomes, internal advisor.

Shi Zhang, PhD, Department of Community Health Sciences, Sept 2022–
Crossed Random effects Cox models for Recurrent Events, internal advisor.

Supervision of Other Research and Academic Personnel - University of Manitoba:
Research Assistant
Narges Amiri, *Statistical Modeling of Leukemia Disease in Canada.* May 2023–

Justin Dyck, *Statistical Modeling of Leukemia Disease in Canada.* Oct 2019–

Shamsia Sobhan, *Spatial Modeling of Diseases in Manitoba.* March 2022–

Katie Galloway, *Spatial Cluster Detection of Diseases in Manitoba.* Mar 2012–May 2015
. May 2018 – Aug 2019

Parisa Azimaee, *Statistical Modeling of Administrative Datasets.* June 2017– Sept 2017

Lahiru Wickramasinghe, *Statistical Modeling of Chronic Diseases in Manitoba.* Sept 2014–May 2017

Erfanul Hoque, *Spatial Modeling of Diseases in Manitoba.* Feb 2016–August 2016
. Jan 2021 – December 2022

Mili Roy, *Spatial Cluster Detection of Diseases in Manitoba.* Sept 2016–Nov 2016

Monsur Chowdhary, *Spatial Cluster Detection of Diseases in Manitoba.* Sept 2015–Jan 2016

Sathi Rani Saha, *Statistical Modeling of Chronic Diseases in Manitoba.* Jan 2014–Sept 2014

Chao Zhu, *Statistical Modeling of Chronic Diseases in Manitoba.* Sept 2012–May 2013

Xiaoming Liu, *Spatial Modeling of Disease Rates in the Province of Manitoba.* Feb 2011–Aug 2011

Undergraduate Student Supervision:
Isfahan University
Azadeh Alidousti, B.Sc., Department of Statistics, Research Project: 2002
Analysis of the Rate of Gold in Isfahan Using Time Series Approach.

Afsoun Aarabi, B.Sc., Department of Statistics, Research Project: 2002
Forecasting the Number of Passengers Who Use Train in Isfahan.

Reza Nader Mohammadi, B.Sc., Department of Statistics, Research Project: 2002
Analysis of the Water Consumption in Isfahan Using Time Series and Smoothing Approaches.

Payame Noor University
Mahasti Siavashnia, B.Sc., Department of Statistics, Research Project: 2001
Forecasting the Sale of an Industry Company in Tehran.

Ashraf Sadat Shahraeeni and Naeimeh Hedayatpour Bazargani, B.Sc., 2001
Department of Statistics, Research Project: *Statistical Modeling Approach for the Rate of Pollution in Tehran.*

CONSULTING

Biostatistical Consultant 2010–
University of Manitoba

Statistical Consultant 2000–2002
Central Insurance of Iran

Volunteer Consultant 2000–2002
Varied projects with different groups, Isfahan University

PROFESSIONAL SERVICE

Editorial Activities:

Guest Co-Editor of Survey Methodology on the occasion of J.N.K. Rao's 80th birth day 2018–2019

Associate Editor of Electronic Journal of Statistics 2022–
Associate Editor of Environmetrics 2022–
Associate Editor of Journal of Survey Methodology 2019–
Associate Editor of Journal of Iranian Statistical Society 2016–
Associate Editor of International Journal of Biostatistics & Computational Biology 2016–

Reviewing Activities:

Journals:

Journal of American Statistical Association	2014, 2015, 2015, 2018, 2020, 2023
Annals of Statistics	2016
Annals of Applied Statistics	2012, 2020
Biometrics	2014, 2016
Scandinavian Journal of Statistics	2012, 2012, 2013, 2014, 2017, 2017
The Canadian Journal of Statistics	2012, 2012, 2013, 2016, 2021, 2022 (2)
Journal of Multivariate Analysis	2014, 2015, 2016, 2018
Communications in Statistics- Simulation and Computation	2012, 2015, 2016, 2016, 2017, 2023
Mathematical Population Studies	2012
Statistics in Medicine	2011, 2014, 2015, 2017, 2017, 2017, 2017, 2019, 2020 (3), 2021, 2023
Biometrika	2011, 2012, 2014, 2016
Applied Statistics	2011, 2012, 2013, 2014, 2016, 2017, 2018
International Journal of Health Geographics	2010
Computational Statistics and Data Analysis	2010, 2012, 2012, 2013, 2018, 2018, 2020
Journal of Statistical Planning and Inference	2009, 2011, 2014
Survey Methodology	2008, 2012, 2013, 2014, 2015, 2021
Statistics and Computing	2013
Electronic Journal of Statistics	2014
Mathematical Reviews	2013, 2013, 2014, 2014, 2015
BMC Hematology	2013
SpringerPlus	2013
International Journal of Geo-Information	2014, 2014
Journal of Environmental and Public Health	2014
Spatial Statistics	2014, 2014, 2017, 2019, 2019
Statistica Sinica	2014, 2017, 2017
Journal of Statistical Computation and Simulation	2014, 2022
Journal of Environmental and Ecological Statistics	2015, 2017
BMC Emergency Medicine	2015
BMC Pediatrics	2015, 2020
BMC Neurology	2015
Annals of Epidemiology	2015, 2017
International Journal of Environmental Research and Public Health	2015, 2016

Statistical Papers	2015
Journal of the Royal Statistical Society: Series A	2016, 2020, 2022
Journal of Business & Economic Statistics	2016
BMC Public Health	2016, 2017
BMC Medical Research Methodology	2016
Journal of Iranian Statistical Society	2015
Statistics and Operations Research Transactions	2016
International Statistical Review	2016
Australian & New Zealand Journal of Statistics	2017
Journal of Agricultural, Biological, and Environmental Statistics	2017
Sankhya	2017
Journal of Statistical Software	2017
PLOS ONE	2018
Journal of Survey Statistics and Methodology	2018, 2023
Spatial and Spatio-temporal Epidemiology	2018, 2020, 2021, 2023
Journal of the Royal Statistical Society: Series B	2019
Journal of Statistical Methods and Applications	2019
Wiley Interdisciplinary Reviews: Computational Statistics	2022

Grants:

Reviewed two research grants for NSERC	2022
Member of the Review Committee for the CIHR COVID-19 Rapid Research Grants	2020
Member of the Public, Community and Population Health Review Committee for the CIHR	2019, 2019
Member of the Scientific Advisory Committee for the CancerCare Manitoba Foundation operating grants	2015, 2016, 2017, 2018
Member of the Scientific Advisory Committee for the Children's Hospital Research Institute of Manitoba (CHRIM) operating grants	2017, 2019
Member of the Scientific Advisory Committee for the Shastri Indo-Canadian Institute operating grants	2020
Reviewed three research grants for NSERC	2021
Reviewed one internal research grant for University of Toronto	2021
Reviewed one research grant for Mitacs Elevate	2020
Reviewed one research grant for National Science Foundation (NSF)	2015, 2022
Patient-Centered Outcomes Research Institute (PCORI)	2017
Reviewed two research grants for NSERC	2018
Reviewed one research grant for NSERC	2017
Reviewed two research grants for NSERC	2014
Reviewed one research grant for NSERC	2013
Reviewed one research grant for Saskatchewan Health Research Foundation	2013
Reviewed three research grants for NSERC	2012

Books:

Reviewed one book proposal for Chapman & Hall/CRC	2015

Reviewed one book proposal for Chapman & Hall/CRC 2012

Professional Activities:

Chair of the Fundraising Committee of the Statistical Society of Canada (SSC) 2023–2026

Program Committee of Small Area Estimation Conference (SAE2024), Lima, Peru (June 3–7, 2024). 2024

Board of Directors of the Statistical Society of Canada (SSC), Regional Representative 2022–2025

Program Committee of Small Area Estimation Conference (SAE2022), Washington, D.C., USA (May 23–27, 2022). 2022

President Elect/President/Past President of the *Survey Methods Section*, Statistical Society of Canada. 2016–2019

Member of *CJS Award Committee* (to select the yearly best paper published in The Canadian Journal of Statistics), Statistical Society of Canada. 2021–2024

Member of *Ad hoc Committee of SSC 50th Anniversary* (to celebrate 50th Anniversary of SSC) 2021–2022

Member of *Robillard Award Committee* (to select the yearly best PhD thesis defended in Statistics program in Canada), Statistical Society of Canada. 2017–2020

Organizer (and Chair) of an Invited Session on *Data Integration in Survey Sampling* at International Statistical Institute (ISI) Conference, Ottawa, Ontario (July 15 – 20, 2023). 2023

Organizer of an Invited Session on *Recent Advances in Small Area Estimation* at 50th Statistical Society of Canada Annual Meetings, Ottawa, Ontario (May 28 – 31, 2023). 2023

Organizer of an Invited Session on *Data integration in Survey Sampling* at 15th International Conference of the ERCIM WG on Computational and Methodological Statistics (Hybrid CMStatistics 2022), (Dec 17– 19, 2022). 2022

Organizer (and Chair) of an Invited Session on *Recent Advances in Small Area Estimation and Related Fields*, Small Area Estimation Conference (SAE2022), Washington, D.C., USA (May 23 – 27, 2022). 2022

Member of *Student Travel Grants Committee*, Statistical Society of Canada. 2015–2018

Member of *Student Presentation Award Committee*, Statistical Society of Canada. 2012–2018

Organizer of an Invited Session on *Spatial Models for Disease Surveillance* 2021
at 14th International Conference of the ERCIM WG on Computational and Methodological Statistics (Virtual CMStatistics 2021), (Dec 18–Dec 20, 2021).

Organizer of an Invited Session on *Recent Advances in Statistical Modeling of Infectious Diseases* at Joint Statistical Meetings (online), Seattle, Washington, USA (August 8 – August 12, 2021). 2021

Organizer (and Chair) of an Invited Session on *Recent Advances in Small Area Estimation* 2021
at Joint Statistical Meetings (online), Seattle, Washington, USA (August 8 – August 12, 2021).

Organizer (and Chair) of an Invited Session on *Recent Advances in Small Area Estimation* 2021
at 48th Statistical Society of Canada Annual Meetings (online), Ottawa, Ontario (June 7 – June 11, 2021).

Organizer (and Chair) of an Invited Session on *Statistical Modeling of Infectious Diseases* 2021
at 48th Statistical Society of Canada Annual Meetings (online), Ottawa, Ontario (June 7 – June 11, 2021).

Chair of Organizing Committee for *International Workshop on Advancing Knowledge about Spatial Modeling, Infectious Diseases, Environment and Health* at Fields Institute, Toronto, Ontario (June 8 – June 12, 2020), online. 2020

Organizer of an Invited Session on *Statistical modeling of COVID-19 pandemic* 2020
at 13th International Conference of the ERCIM WG on Computational and Methodological Statistics (Virtual CMStatistics 2020), (Dec 19–Dec 21, 2020).

Organizer of an Invited Session on *Recent Advances in Statistical Modeling of Infectious Diseases* at Joint Statistical Meetings, Philadelphia, Pennsylvania, USA (Aug 1–Aug 6, 2020), online. 2020

Organizer (and Chair) of an Invited Session on *Measurement Error Models and its Impacts in Health Sciences* at 47th Statistical Society of Canada Annual Meetings, Calgary, Alberta (May 26 – May 29, 2019). 2019

Organizer of SSC Survey Methods Section Workshop on *Statistical Modeling in Survey Sampling: Some Solutions to Ever Increasing Demand for Reliable Data* at 46th Statistical Society of Canada Annual Meetings, Montreal, Quebec (June 2 – June 5, 2018). 2018

Organizer (and Chair) of Presidential Invited Address of SSC Survey Methods Section on *Measures of Uncertainty for Complex Inference in Surveys* at 46th Statistical Society of Canada Annual Meetings, Montreal, Quebec (June 2 – June 5, 2018). 2018

Organizer (and Chair) of an Invited Session on *Recent Developments in Small Area Estimation* at 46th Statistical Society of Canada Annual Meetings, Montreal, Quebec 2018

(June 2 – June 5, 2018).

Organizer of a Topic-contributed Session on *Recent Developments in Spatial Statistics* at Joint Statistical Meetings, Baltimore, MD, USA (July 30–Aug 3, 2017). 2017

Organizer of an Invited Session on *Small Area Estimation in Health Sciences* at ISI Satellite Meeting on Small Area Estimation, Paris, France (July 10- July 12, 2017). 2017

Organizer (and Chair) of an Invited Session on *Recent Developments in* Small Area Estimation at 45th Statistical Society of Canada Annual Meetings, Winnipeg, Manitoba (June 11- June 14, 2017). 2017

Judge on *Students Presentations* at the Statistical Society of Canada Annual Meetings, Winnipeg, Manitoba. 2017

Co-organizer of an Invited Session on *Statistical Modelling in Environmental and Health Studies* at Statistical Society of Canada Annual Meetings, St. Catharines, Ontario (May 29- June 1, 2016). 2016

Organizer of an Invited Session on *Recent Advances in Small Area Estimation* at Statistical Society of Canada Annual Meetings, St. Catharines, Ontario (May 29- June 1, 2016). 2016

Judge on *Students Presentations* at the Statistical Society of Canada Annual Meetings, St. Catharines, Ontario. 2016

Organizer (and Chair) of an Invited Session on *Recent Developments in Small Area Estimation* at Statistical Society of Canada Annual Meetings, Halifax, Nova Scotia (June 13-17, 2015). 2015

Organizer of an Invited Session on *Prediction in Mixed Models with Applications to Health Data* at Statistical Society of Canada Annual Meetings, Halifax, Nova Scotia (June 13-17, 2015). 2015

Judge on *Students Presentations* at the Statistical Society of Canada Annual Meetings, Halifax, Nova Scotia. 2015

Organizer (and Chair) of an Invited Session on *Recent Developments in Small Area Estimation* at Statistical Society of Canada Annual Meetings, Toronto, Ontario (May 25-28, 2014). 2014

Organizer of an Invited Session on *Recent Advances in Spatial Statistics* at Statistical Society of Canada Annual Meetings, Toronto, Ontario (May 25-28, 2014). 2014

Organizer (and Chair) of a Topic-contributed Session on *Recent Advances in* 2013

Likelihood-based Inference in Mixed Models using Data Cloning at Joint Statistical Meetings, Montreal, Quebec (Aug 3-8, 2013).

Judge on *Students Presentations* at the Statistical Society of Canada Annual Meetings, Edmonton, Alberta. 2013

Organizer (and Chair) of an Invited Session on *Recent Advances in Small Area Estimation* at Statistical Society of Canada Annual Meetings, Guelph, Ontario (June 3-6, 2012). 2012

Judge on *Students Presentations* at the Statistical Society of Canada Annual Meetings, Wolfville, Nova Scotia. 2011

Thesis Oral Defence Chair:

Megan Campbell, MSc, Department of Community Health Sciences, 2020
Building Concensus on Winnipegs Personal Care Home Paneling Criteria.

Elizabeth Sachs, MSc, Department of Community Health Sciences, 2019
Self-rated frailty, resilience, and mortality of old men: The Manitoba Follow-up Study.

Mohammad Nazmus Sakib, MSc, Department of Community Health Sciences, 2018
Examining multimorbidity among middle-aged Canadians.

Farnoosh Khaloeipour, MSc, Department of Community Health Sciences, 2018
Insolvency and marital breakdown.

Andrew Basham, MSc, Department of Community Health Sciences, 2015
Tuberculosis prevention, diagnosis, and care in Manitoba, 2008–2010: A performance analysis.

Rushita Adhikari Bagchi, PhD, Department of Physiology & Pathophysiology, 2015
Transcriptional regulation of cardiac extracellular matrix gene expression and fibroblast phenotype by Scleraxis.

Examining Activities:

Examiner for Tenure and Promotion Applications to Associate Professor, Canada 2019, 2021

Examiner for a Promotion Application to Full Professor, USA 2021

Examiner for a Promotion Application to Full Professor, Australia 2019

External Examiner for Matthew Peng Ming Yap, PhD Biostatistics, 2021
University of Western Australia, Perth, Australia

External Examiner for Ziyang Lyu, PhD Statistics, 2019
Australian National University, Canberra, Australia

External Examiner for Yegnanew Alem Shiferaw, PhD Statistics, University of Witwatersrand, Johannesburg, South Africa — 2016

External Examiner for Lin Xue, MSc Statistics, University of Manitoba — 2015
Internal Examiner for Stephenson Strobel, BSc Medicine, University of Manitoba — 2013
External Examiner, Honour Project, Isfahan University — 2002
External Examiner, Two Honour Projects, Isfahan University — 2001
External Examiner, Honour Project, Isfahan University — 2000

Media Interviews:
Interview with Carolyn Brown (freelance writer) on multiple sclerosis association with Epstein-Barr virus — 8 July 2016

Interview with Maggie Macintosh (Winnipeg Free Press) on how the COVID-19 affects children and what might be the key precautions as we reopen schools in the Fall — 10 August 2020

SERVICE - University of Manitoba

Member of the *Search Committee* for Assistant Professor Position in the Department of Economics — 2022–2023
Elected member of the *Graduate Program Committee – CHS* — 2017–2022
Elected member of the *Headship Search Committee – CHS* — 2019
Member of the *Search Committee* for the CRC Tier II in Program Science and Global Public Health — 2019
Member of the *Child Health Research Days* Committee – Children's Hospital Research Institute of Manitoba (CHRIM) — 2019
Member of the *PhD Candidacy Exam Committee – CHS* — 2016–2017, 2019
Member of the *Adjudication Committee* (Western Regional Training Centre Graduate Students Applications) — 2013, 2014, 2015, 2019
Community Health Sciences *Colloquium Director* — 2012–2015
Elected member of the *Executive Committee* — 2011–2015
Member of the *Search Committee* for New Assistant Professor Position in Social Health Science — 2011–2012
Member of the *Search Committee* (Biostatistics Consultant) — 2011
Member of the *Adjudication Committee* (CHS Award for Outstanding Multiple Specialty Rotation Papers) — 2010

PROFESSIONAL MEMBERSHIPS

International Society for Bayesian Analysis (ISBA) — 2012–
Institute of Mathematical Statistics (IMS) — 2012–
Children's Hospital Research Institute of Manitoba (CHRIM) in the category of *Scientist* — 2012–
Iranian Statistical Society — 2012–
Statistical Society of Canada — 2005–
American Statistical Association — 2004–

CONTINUING PROFESSIONAL DEVELOPMENT

Enhancement of Research Skills:

International Workshop on New Advances in Statistics: Theory and Applications, 2012
Department of Statistics, University of Manitoba.

Workshop on What Does it Take to Strategically Develop a Health Research Program for 2011
New Health Researchers, Associate Research Office, Faculty of Medicine, University of Manitoba.

Workshop on Analysis of Survival and Event History Data, 2011
Centre for Research in Mathematics, University of Montreal, Montreal, Quebec.

Workshop on A Practical Introduction to Hierarchical Modeling for Spatially Referenced Data, 2011
Statistical Society of Canada Annual Meetings, Wolfville, Nova Scotia.

Workshop on Developing Your Educational Research Study, 2011
Department of Medical Education, Faculty of Medicine, University of Manitoba.

Workshop on The Nuts & Bolts of Grant Writing, Research Development, 2011
Faculty of Medicine, University of Manitoba.

Workshop on Nonparametric Statistics and Related Topics, Fields Institute 2006
and Carleton University, Carleton University, Ottawa, Ontario.

Workshop on Current Issues in the Analysis of Incomplete Longitudinal Data, 2005
Fields Institute, Toronto, Ontario.

Workshop on Measuring and Modeling Space Time Processes for 2005
Environment Risk Assessment, Statistical Society of Canada Annual Meetings,
University of Saskatchewan, Saskatoon, Saskatchewan.

Workshop on Latent Variable Models and Survey Data for Social Sciences Research, 2005
Center for Research in Mathematics (CRM), University of Montreal, Montreal, Quebec.

Enhancement of Teaching Skills:

Workshop on Learning Styles in the Classroom, Department of Medical Education, 2012
Faculty of Medicine, University of Manitoba.

Workshop on Creating a Successful Online Environment: The Blended Approach, 2011
Department of Medical Education, Faculty of Medicine, University of Manitoba.

Workshop on Writing Multiple Choice Questions, Department of Medical Education, 2011
Faculty of Medicine, University of Manitoba.

Workshop on Learning Styles in the Classroom, Department of Medical Education, 2011
Faculty of Medicine, University of Manitoba.

Workshop on The Art of Presenting, Department of Medical Education, Faculty of Medicine, 2011
University of Manitoba.

Workshop on Facilitating Small Groups, Department of Medical Education, 2011
Faculty of Medicine, University of Manitoba.

Workshop on Student Response Systems: Developing Higher Order Thinking Skills, 2011
Department of Medical Education, Faculty of Medicine, University of Manitoba.

Workshop on Teaching Improvement Project System (TIPS) (two full days), 2010
Department of Medical Education, Faculty of Medicine, University of Manitoba.

Workshop on Giving Feedback, Department of Medical Education, Faculty of Medicine, 2010
University of Manitoba.

UTS Improvement Workshop (20 hours), University Teaching Services, 2008
University of Alberta Teaching Services, Edmonton, Alberta.

Enhancement of Professional Skills:

Workshop on Academic Promotion and Career Advancement in the College of Medicine. 2018
Workshop on Academic Promotion and Career Advancement in the College of Medicine. 2015
Workshop on Academic Promotion and Career Advancement in the Faculty of Medicine. 2013
Workshop on Academic Promotion and Career Advancement in the Faculty of Medicine. 2012
Workshop on Promotion and Tenure. 2012
Workshop on New Changes on Faculty Promotions and Tenure, 2012
Assistant Dean (Academic) Office, Faculty of Medicine, University of Manitoba.
Workshop on Educational Scholarship (What is it, and why should I care?) 2011
Workshop on What is Quality Improvement: How Can It Be Taught?, 2011
Department of Medical Education, Faculty of Medicine, University of Manitoba.
Workshop on Academic Career Advancement - How to Advance Your Career in 2011
the Health Sciences, Faculty of Medicine, University of Manitoba.
Workshop on The Road to Tenure and Promotion, Department of Medical Education, 2011
Faculty of Medicine, University of Manitoba.
Workshop on Getting Started with Curriculum Development & Simulation, 2010
Department of Medical Education, Faculty of Medicine, University of Manitoba.
Workshop on Professional Development (Mock Grant Review and Mentoring Panelists), 2009
Alberta Heritage Foundation for Medical Research (AHFMR), Red Deer, Alberta.
Workshop on Making Connections, AHFMR, Jasper, Alberta. 2009
Workshop on Science to Society, The Centre for Innovation Studies (THECIS), Banff, Alberta. 2007

COMPUTING

Statistical Packages:	SPlus/R, WinBUGS, BOA, SAS
Text and Information:	LaTeX, MS Office, Manifold, GIS
Operating:	Unix, Windows, Mac