

Mahmoud Torabi, PhD

Associate Professor of Bio/statistics (tenured)
Departments of Community Health Sciences & Statistics
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, Biostatistics, Missing Data Analysis

EDUCATION

Ph.D. in Statistics Carleton University	2007
M.Sc. in Statistics National University of Iran	1999
B.Sc. in Statistics (with Honours) National University of Iran	1997

RESEARCH EXPERIENCE

Associate Professor University of Manitoba	April 2014–Present
Assistant Professor University of Manitoba	July 2010–March 2014
Post-Doctoral Fellow University of Alberta	2007–2010

PUBLICATIONS

Statistical Methodology Papers Published in Refereed Journals:

(Research trainees shown by *)

- [34A] Hoque E*, and Torabi M (2017). Modeling the random effects covariance matrix for longitudinal data with covariates measurement error, under revision.
- [33A] Shokoohi F*, and Torabi M (2017). Semi-parametric small-area estimation by combining time-series and cross-sectional data, under revision.

- [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*, to appear.
- [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. *Journal of 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 Shokoochi 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:

- [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, Burczynski, Torabi M, and Namaka MP (2015). Upregulation of nerve growth factor in experimental autoimmune encephalomyelitis: implications for multiple sclerosis. *CNS & Neurological Disorders - Drug Targets*, in press.
- [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.

Submitted:

- [1] Torabi M, and Nourmohammadi M*. Estimation of proportion in spatially correlated data: A case study of Asthma.
- [2] Torabi M. Spatial generalized linear mixed models in small area estimation.
- [3] Torabi M, and Shokoochi F*. Hierarchical Bayes inference in small area estimation using penalized spline regression.
- [4] Shokoochi F*, and Torabi M. Bayesian inference of non-parametric models in small area estimation by combining time series and cross-sectional data.

- [5] Torabi M. An examination of spatial disease cluster detection methods to childhood asthma physician visits in Manitoba, Canada.
- [6] Strobel S, Torabi M., and Forget E. Illegal substance use and adolescent employment in Canada.

In Preparation:

- [1] Torabi M., and Ghahramani M. A Likelihood inference for a joint model for operative mortality and long-term survival after coronary artery bypass surgery with missing data.
- [2] Torabi M., and Ghahramani M. Simultaneous modelling of operative mortality and long-term survival after coronary artery bypass surgery via data cloning.
- [3] Torabi M. Robust estimation of mean squared error of small area means and distributions.
- [4] Torabi M. Robust analysis of generalized linear mixed models for longitudinal data.
- [5] Torabi M. Analysis of generalized linear mixed models with non-ignorable missing covariates with application to small area estimation.
- [6] Torabi M. Cluster detection methods based on putative sources.
- [7] Galloway K*, Walker J, and Torabi M. A Bayesian mixed treatment comparison meta-analysis for children’s anxiety.

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)	<i>Advancing complex models in small area estimation and spatial statistics.</i> <u>M Torabi</u>	\$135,000	2016–2021
Children’s Hospital Research Institute of Manitoba (CHRIM)	<i>Geographical variation and related risk factors with childhood leukaemia in Manitoba.</i> <u>M Torabi</u> (PI), Israels S, Singh H, Elias B, Yu N, Ens C	\$40,000	2015–2017

Previously Held:

Prostate Cancer Canada	<i>The effect of antipsychotic medications on the incidence and aggressiveness of prostate cancer: a population based study</i> S Mahmud (PI), <u>M Torabi</u> , Aprikian, Franco, D Turner, Bozat-Emre, D Dawe, Alessi-Severini	\$153,462	2014–2016
Manitoba Medical Service Foundation	<i>Temporal and spatial trends of lymphoma incidence, survival, and mortality in Manitoba</i> X Ye (PI), <u>M Torabi</u> , J Johnston, J Griffith, R Ahmed, P Skrabek, S Mahmud	\$14,500	2015–2016
NSERC	<i>Small area estimation, and spatial statistics.</i> <u>M Torabi</u>	\$85,000	2011–2016
Manitoba Health Research Council (MHRC)	<i>Disease mapping in the province of Manitoba.</i> <u>M Torabi</u>	\$99,545	2012–2015
Canadian Institutes of Health Research (CIHR)	<i>Is a guaranteed annual income feasible and sustainable in Canada?</i> E Forget (PI), <u>M Torabi</u> , B Jackson, A Shiell, M Wolfson	\$180,000	2011–2014
CIHR	<i>Exploring the role of established and non-traditional risk factors on diabetes and cardiovascular disease among a Manitoba first nation population.</i> S Bruce (PI), <u>M Torabi</u> , L Elliott, B Lavallee, N Riediger, M Daniel, G Shen, M Suh	\$262,092	2011–2013
MHRC	<i>Exploring the role of established and non-traditional risk factors on diabetes and cardiovascular disease among a Manitoba first nation population.</i> S Bruce (PI), <u>M Torabi</u> , L Elliott, B Lavallee, N Riediger, M Daniel, G Shen, M Suh	\$262,092	2011–2013
University of Manitoba (start-up fund)	<i>Biostatistical methods in health sciences.</i> <u>M Torabi</u>	\$75,000	2010–2013
CIHR	<i>Biostatistical methods for disease cluster detection and spatial modeling.</i> RJ Rosychuk (PI), <u>M Torabi</u> , BH Rowe	\$291,157	2009–2012
University of Manitoba (University Research Grants Program)	<i>Spatial modeling of incidence rates in the province of Manitoba.</i> <u>M Torabi</u>	\$7,500	2011–2011

AWARDS AND ACADEMIC ACHIEVEMENTS

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 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:

- [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] Shokoochi 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*. Depart-

ment 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:

- [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 (GE-OMED), 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 2010–2017

University of Manitoba

Courses: (**Graduate level**): Advanced Biostatistics, Biostatistics for Community Health Sciences 2, Linear and Generalized Linear Mixed Models, Statistical Methods in Spatial Epidemiology, Spatial Statistics, Longitudinal Data Analysis

(**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
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*.

Graduate Student Supervision - University of Manitoba: Completed:

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*.

On going:

Shabnam Balamchi, PhD, Department of Statistics, Jan 2014–

Some Contributions to Spatial Statistics, Supervisor.

Kanika Grover, MSc, Department of Statistics, Sept 2016–
Some Contributions to Small Area Estimation, Co-supervisor.

Erfanul Hoque, PhD, Department of Statistics, Jan 2017–
Some Contributions to Longitudinal Data Analysis, Co-supervisor.

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

Service on Thesis Committees - University of Manitoba:

Completed:

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.

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.

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

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

On going:

Yang Cui, PhD, Department of Community Health Sciences, Sept 2011–
Children in Care in Manitoba, internal advisor.

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

Mina Alizadehsadrnaneshpour, PhD, Department of Economics, Sept 2014–
Three Essays in Health Economics, external advisor.

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

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

**Supervision of Other Research and Academic Personnel - University of Manitoba:
Research Assistant**

Parisa Azimae, *Statistical Modeling of Administrative Datasets*. June 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

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

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

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 University of Manitoba	2010–
Statistical Consultant Central Insurance of Iran	2000–2002
Volunteer Consultant Varied projects with different groups, Isfahan University	2000–2002

PROFESSIONAL SERVICE

Editorial Activities:

<i>Associate Editor of American Journal of Biostatistics</i>	2014–
<i>Associate Editor of Journal of Iranian Statistical Society</i>	2016–
<i>Associate Editor of International Journal of Biostatistics & Computational Biology</i>	2016–

Reviewing Activities:

Journals:

<i>Journal of American Statistical Association</i>	2014, 2015, 2015
<i>Annals of Statistics</i>	2016
<i>Annals of Applied Statistics</i>	2012
<i>Biometrics</i>	2014, 2016
<i>Scandinavian Journal of Statistics</i>	2012, 2012, 2013, 2014, 2017
<i>The Canadian Journal of Statistics</i>	2012, 2012, 2013, 2016
<i>Journal of Multivariate Analysis</i>	2014, 2015, 2016
<i>Communications in Statistics- Simulation and Computation</i>	2012, 2015, 2016, 2016, 2017
<i>Mathematical Population Studies</i>	2012
<i>Statistics in Medicine</i>	2011, 2014, 2015, 2017, 2017, 2017
<i>Biometrika</i>	2011, 2012, 2014, 2016
<i>Applied Statistics</i>	2011, 2012, 2013, 2014, 2016, 2017
<i>International Journal of Health Geographics</i>	2010
<i>Computational Statistics and Data Analysis</i>	2010, 2012, 2012, 2013
<i>Journal of Statistical Planning and Inference</i>	2009, 2011, 2014
<i>Survey Methodology</i>	2008, 2012, 2013, 2014, 2015
<i>Statistics and Computing</i>	2013
<i>Electronic Journal of Statistics</i>	2014
<i>Mathematical Reviews</i>	2013, 2013, 2014, 2014, 2015
<i>BMC Hematology</i>	2013
<i>SpringerPlus</i>	2013
<i>International Journal of Geo-Information</i>	2014, 2014
<i>Journal of Environmental and Public Health</i>	2014
<i>Journal of Spatial Statistics</i>	2014, 2014, 2017
<i>Statistica Sinica</i>	2014, 2017, 2017

<i>Journal of Statistical Computation and Simulation</i>	2014
<i>Journal of Environmental and Ecological Statistics</i>	2015, 2017
<i>BMC Emergency Medicine</i>	2015
<i>BMC Pediatrics</i>	2015
<i>BMC Neurology</i>	2015
<i>Annals of Epidemiology</i>	2015, 2017
<i>International Journal of Environmental Research and Public Health</i>	2015, 2016
<i>Statistical Papers</i>	2015
<i>Journal of the Royal Statistical Society: Series A</i>	2016
<i>Journal of Business & Economic Statistics</i>	2016
<i>BMC Public Health</i>	2016, 2017
<i>BMC Medical Research Methodology</i>	2016
<i>Journal of Iranian Statistical Society</i>	2015
<i>Statistics and Operations Research Transactions</i>	2016
<i>International Statistical Review</i>	2016
<i>Australian & New Zealand Journal of Statistics</i>	2017
<i>Journal of Agricultural, Biological, and Environmental Statistics</i>	2017
<i>Sankhya</i>	2017

Grants:

<i>Member of the Scientific Advisory Committee for the CancerCare Manitoba Foundation operating grants</i>	2015, 2016, 2017
<i>Member of the Scientific Advisory Committee for the Children's Hospital Research Institute of Manitoba (CHRIM) operating grants</i>	2017
<i>Reviewed one research grant for National Science Foundation (NSF)</i>	2015
<i>Reviewed two research grants for NSERC</i>	2014
<i>Reviewed one research grant for NSERC</i>	2013
<i>Reviewed one research grant for Saskatchewan Health Research Foundation</i>	2013
<i>Reviewed three research grants for NSERC</i>	2012

Books:

<i>Reviewed one book proposal for Chapman & Hall/CRC</i>	2015
<i>Reviewed one book proposal for Chapman & Hall/CRC</i>	2012

Professional Activities:

President Elect/President/Past President of the <i>Survey Methods Section</i> , Statistical Society of Canada.	2016–2018
Member of <i>Robillard Award Committee</i> (to select the yearly best PhD thesis defended in Statistics program in Canada), Statistical Society of Canada.	2017–2020
Member of <i>Student Travel Grants Committee</i> , Statistical Society of Canada.	2015–2018

- Member of *Student Presentation Award Committee*, Statistical Society of Canada. 2012–2018
- 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, 2013
Edmonton, Alberta.

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, 2011
Wolfville, Nova Scotia.

Thesis Oral Defence Chair:

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:

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

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

SERVICE - University of Manitoba

Member of the *PhD Candidacy Exam Committee- CHS* 2016–

Member of the *Adjudication Committee* 2013, 2014, 2015

(Western Regional Training Centre Graduate Students Applications)

Community Health Sciences *Colloquium Director* 2012–2015

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* 2010

(CHS Award for Outstanding Multiple Specialty Rotation Papers)

PROFESSIONAL MEMBERSHIPS

International Society for Bayesian Analysis (ISBA)	2012–
Institute of Mathematical Statistics (IMS)	2012–
Manitoba Institute of Child Health in the category of <i>Scientist</i>	2012–
Iranian Statistical Society	2012–
Women and Children Health Research Institute, Edmonton, Canada	2009–
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, Department of Statistics, University of Manitoba.	2012
Workshop on What Does it Take to Strategically Develop a Health Research Program for New Health Researchers, Associate Research Office, Faculty of Medicine, University of Manitoba.	2011
Workshop on Analysis of Survival and Event History Data, Centre for Research in Mathematics, University of Montreal, Montreal, Quebec.	2011
Workshop on A Practical Introduction to Hierarchical Modeling for Spatially Referenced Data, Statistical Society of Canada Annual Meetings, Wolfville, Nova Scotia.	2011
Workshop on Developing Your Educational Research Study, Department of Medical Education, Faculty of Medicine, University of Manitoba.	2011
Workshop on The Nuts & Bolts of Grant Writing, Research Development, Faculty of Medicine, University of Manitoba.	2011
Workshop on Nonparametric Statistics and Related Topics, Fields Institute and Carleton University, Carleton University, Ottawa, Ontario.	2006
Workshop on Current Issues in the Analysis of Incomplete Longitudinal Data, Fields Institute, Toronto, Ontario.	2005
Workshop on Measuring and Modeling Space Time Processes for Environment Risk Assessment, Statistical Society of Canada Annual Meetings, University of Saskatchewan, Saskatoon, Saskatchewan.	2005
Workshop on Latent Variable Models and Survey Data for Social Sciences Research, Center for Research in Mathematics (CRM), University of Montreal, Montreal, Quebec.	2005

Enhancement of Teaching Skills:

Workshop on Learning Styles in the Classroom, Department of Medical Education, Faculty of Medicine, University of Manitoba.	2012
Workshop on Creating a Successful Online Environment: The Blended Approach, Department of Medical Education, Faculty of Medicine, University of Manitoba.	2011
Workshop on Writing Multiple Choice Questions, Department of Medical Education, Faculty of Medicine, University of Manitoba.	2011
Workshop on Learning Styles in the Classroom, Department of Medical Education, Faculty of Medicine, University of Manitoba.	2011

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. 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, C/C++

Text and Information: LaTeX, MS Office, Manifold, GIS

Operating: Unix, Windows, Mac