Curriculum Vitae

William J. McCausland

Contact Information

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Département de sciences économiques	Pavillon Lionel Groulx
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Education

1989	B.A.Sc.	Engineering Science	University of Toronto
1992	M.Eng.	Electrical Engineering	McGill University
1996	M.A.	Economics	University of Toronto
2002	Ph.D.	Economics	University of Minnesota

Positions

2009-	Associate Professor	Université de Montréal	Montreal, QC
2009-2013	External Affiliate	Centre for the Study of Choice	Sydney, Australia
2001-	Researcher	CIREQ	Montreal, QC
2001-	Researcher	CIRANO	Montreal, QC
2001-2009	Assistant Professor	Université de Montréal	Montreal, QC

Publications

"Multivariate stochastic volatility using the HESSIAN method," *Econometrics and Statistics*, 2021, **17**, 76-94 (with Shirley Miller and Denis Pelletier)

"Testing the random utility hypothesis directly," *Economic Journal*, 2020, **130**, 183-207 (with Clintin Davis-Stober, A. A. J. Marley, Sanghyuk Park and Nicholas Brown)

"The HESSIAN method for models with leverage-like effects," *Journal of Financial Econometrics*, 2015, **13**, 722-755. (with Gbowan B. Djegnéné)

"Bayesian inference and model comparison for random choice structures," *Journal of Mathematical Psychology*, 2014, **62-63**, 33-46. (with A.A.J. Marley)

"Prior Distributions for Random Choice Structures," *Journal of Mathematical Psychology*, 2013, **57**, 78-93. (with A.A.J. Marley)

"The HESSIAN Method (Highly Efficient State Smoothing, In A Nutshell)," *Journal of Econometrics*, 2012, **168**, 189-206.

"Simulation smoothing for state-space models: A computational efficiency analysis," *Computational Statistics and Data Analysis*, 2011, **55**, 199-212. (with Shirley Miller and Denis Pelletier)

"Economic Modeling and Inference, by Bent Jesper Christensen and Nicholas M. Kiefer," *International Review of Economics and Finance*, 2010, **19**, 793-794. (book review)

"Discussion on the Paper by Rue, Martino and Chopin," *Journal of the Royal Statistical Society: Series B*, April 2009, **71**, 375-375.

"Random Consumer Demand," *Economica*, February 2009, **76**, 89-107.

"Bayesian Inference on Time-Varying Proportions," in S. Chib, W. Griffiths, G. Koop and D. Terrell (eds.), *Advances in Econometrics, Volume 23: Bayesian Econometric Methods*. Bingley, UK: Emerald Books, 2008, 525-544. (with Brahim Lgui)

"On Bayesian Analysis and Computation for Functions with Monotonicity and Curvature Restrictions," *Journal of Econometrics*, 2008, **142**, 484-507.

"Time Reversibility of Stationary Regular Finite State Markov Chains," *Journal of Econometrics*, 2007, **136**, 303-318.

"Using the BACC Software for Bayesian Inference," *Computational Economics*, 2004, **23**, 201-218.

"Using Simulation Methods for Bayesian Econometric Models," in David E. A. Giles (ed.), *Computer-Aided Econometrics*. New York: Marcel Dekker, 2003, 209-261. (with John Geweke and John J. Stevens)

"Bayesian Specification Analysis in Econometrics," *American Journal of Agricultural Economics*, 2001, **83**, 1181-1186. (with John Geweke)

"Embedding Bayesian Tools in Mathematical Software," *Proceedings of the International Society for Bayesian Analysis (ISBA)*, 2000, 165-173. (with John Geweke)

Unpublished Papers

"A Flexible Stochastic Conditional Duration Model," (with Samuel Gingras)

"An Illustrated Guide to Context Effects," (with Clintin Davis-Stober, A. A. J. Marley and Brandon Turner)

"Testing Axioms of Stochastic Discrete Choice Using Population Choice Probabilities," (with Clintin Davis-Stober and A. A. J. Marley)

"Dynamic factor models with stochastic volatility"

"Multivariate stochastic volatility" (with Shirley Miller and Denis Pelletier)

"The Ghost in the Machine: Inferring Machine-Based Strategies from Observed Behavior," (with Jim Engle-Warnick and John Miller)

Other Work in Progress

"The Generalized HESSIAN method" (with Gbowan B. Djegnéné)

"Bayesian non-parametric inference with monotonicity restrictions for discrete choice experiments" (with Rémi Daviet)

"Statistic-based Bayesian inference in latent variable models" (with Denis Pelletier)

Conference Presentations (since 2007)

"*RanCh: An R Package for Abstract Random Choice Analysis*," 2019 Meeting of the Society for Mathematical Psychology, Montréal, QC, July 2019.

"*An Illustrated Guide to Context Effects*," 2018 Meeting of the Society for Mathematical Psychology, Madison, WII, July 2018.

"*Testing Axioms of Stochastic Discrete Choice Using Population Choice Probabilities*," CIREQ Econometrics Conference, Montréal, QC, April 2018 (Poster); Seminar on Bayesian Inference in Econometrics and Statistics, Stanford, CA, May 2018; 2018 Meeting of the Society for Mathematical Psychology, Madison, WI, July 2018; American Statistical Association Joint Statistical Meetings, Vancouver, BC, July 2018.

"*Joint Sampling of States and Parameters in State Space Models*," Seminar on Bayesian Inference in Econometrics and Statistics, St. Louis, MO, May 2017.

"*Testing Random Utility Using Falmagne's Conditions Directly*," International Choice Modelling Conference, Austin, TX, May 2015; 2015 Meeting of the Society for Mathematical Psychology, Laguna Beach, CA, July 2015; Seminar on Bayesian Inference in Econometrics and Statistics, Philadelphia, PA, May 2016.

"*Dynamic Factor Models with Stochastic Volatility*," 8'th International Conference on Computational and Financial Econometrics (CFE 2014), Pisa, Italy, December 2014; Seminar on Bayesian Inference in Econometrics and Statistics, St. Louis, MO, May 2015.

"*Bayesian Inference and Model Comparison for Random Choice Structures*," Seminar on Bayesian Inference in Econometrics and Statistics, St. Louis, MO, April 2013; 47th Annual Meeting of the Canadian Economics Association, Montreal, QC, June 2013; 2013 Meeting of the Society for Mathematical Psychology, Potsdam, Germany, August 2013; Conference on Bayesian Methods in Microeconometric Modeling, Pasadena, CA, September 2013.

"*Multivariate Stochastic Volatility*," Rimini Conference in Economics and Finance, Toronto, ON, August 2012.

"*Prior Distributions for Random Choice Structures*," 2012 Meeting of the Society for Mathematical Psychology, Columbus, OH, July 2012.

"*The HESSIAN Method (Highly Efficient State Smoothing, In A Nutshell)*," Workshop on Bayesian Inference for Latent Gaussian Models with Applications, Zurich, Switzerland, February 2011; North American Summer Meeting of the Econometrics Society, Boston, MA, June 2009; 43rd Annual Meeting of the Canadian Economics Association, Toronto, ON, May 2009; Seminar on Bayesian Inference in Econometrics and Statistics, Chicago, IL, May 2008.

"*A New Approach to Drawing States in State Space Models*," 13th International Conference on Computing in Economics and Finance, Montreal, QC, June 2007.

"*Bayesian Analysis and Computation for Functions Subject to Monotonicity and Curvature Restrictions*," 41st Annual Meeting of the Canadian Economics Association, Halifax, NS, June 2007; Seminar on Bayesian Inference in Econometrics and Statistics, Saint Louis, MO, May 2007.

Discussions (since 2007)

"*Disccussion of Lee, Liau, Seo and Shin, Factor-Driven Two-Regime Regression*," Canadian Econometrics Study Group, Montréal, QC, 2019.

"*Discussion of Creel, Gao, Hong and Kristensen, Bayesian Indirect Inference and the ABC of GMM*," CIREQ Econometrics Conference. Montréal, QC, 2018.

"*Discussion of Jin and Maheu, Bayesian Semiparametric Modeling of Realized Covariance Matrices*," Canadian Econometrics Study Group, Guelph, ON, 2015.

"*Discussion of Burda and Prokhorov, Copula Based Factorization in Bayesian Multivariate Infinite Mixture Models*," 47th Annual Meeting of the Canadian Economics Association, Montreal, QC, 2013.

"*Discussion of Liu, Markov Switching Quantile Autoregression*," 47th Annual Meeting of the Canadian Economics Association, Montreal, QC, 2013.

"*Discussion of Kiefer, Correlated Defaults, Temporal Correlation, Expert Information and Predictability of Default Rates*," Third CIREQ Time Series Conference, Montreal, QC, 2009.

"*Discussion of Gordon and Amedah, Bayesian Analysis via MCMC Scheme for the Normal Inverse Gaussian*," 41st Annual Meeting of the Canadian Economics Association, Halifax, NS, 2007.

"*Discussion of van Hasselt, Bayesian Inference in the Sample Selection and Two-Part Models*," Canadian Econometrics Study Group, Montreal, QC, 2007.

Seminar Presentations (since 2007)

"*Axioms and inference: a toolbox for abstract stochastic discrete choice*," University of Missouri (Department of Psychology), February 2019.

"*Testing Random Utility Using Falmagne's Conditions Directly*," North Carolina State University, October 2016.

"*Dynamic Factor Models with Stochastic Volatility*," Rutgers University, December 2014.

"*State-space Duration Models*," University of Melbourne, April 2013.

"*Prior Distributions for Random Choice Structures*," Australian National University, March 2013; University of Sydney, March 2013; Université de Montréal, Brown bag microeconomics seminar, September 2012.

"*Filtering without Particles*," University of Technology, Sydney, April 2011.

"*A Simulation Approach to Random Choice Axioms and Models* ," University of Technology, Sydney, April 2011.

"*The HESSIAN Method (Highly Efficient State Smoothing, In A Nutshell)*," Australian National University, April, 2011; Monash University, April 2010; University of Technology Sydney (CenSoC), April 2010; University of Sydney, March 2010; University of Queensland, March 2010; Cornell University, April 2008; University of California, Irvine, April 2008.

"*The Ghost in the Machine: Inferring Machine-Based Strategies from Observed Behavior*," Louisiana State University, February 2009. University of Chicago GSB, February 2008; University of Nevada, Reno, November 2007.

"*Efficient inference for semi-Gaussian state space models*," Université de Montréal, November 2007.

Funded Research

2013 - 2016	Australian Research Council (ARC)	
	Discovery Project (overseas partner investigator)	
2012 - 2019	Social Sciences and Humanities Research Council (SSHRC)	
	Insight Grant (co-applicant)	$257,660
2003 - 2006	Fonds de recherche sur la société et la culture (FQRSC)	$40,500

Other Professional Activities

Referee, National Science Foundation (USA), Social Science and Humanities Research Council (Canada), Deutsche Bundesbank, Journal of Econometrics, Journal of Business and Economic Statistics, Econometric Theory, Econometric Reviews, Journal of Applied Econometrics, Studies in Nonlinear Dynamics and Econometrics, International Journal of Forecasting, International Economic Review, Journal of Economic Theory, Quantitative Economics, Economics Letters, American Journal of Agricultural Economics, Decisions in Economics and Finance, Empirical Economics, Journal of Financial Econometrics, Canadian Journal of Economics, Actualité Économique, Computational Statistics and Data Analysis, Journal of Statistical Computation and Simulation, Journal of Mathematical Psychology, Decision, Psychometrika, British Journal of Mathematical and Statistical Psychology, Management Science, IEEE Signal Processing Letters, International Journal of Control, Tourism Management, International Journal of Mathematical Modelling and Numerical Optimization, Journal of Statistical Software, Statistics and Probability Letters

Local organizer, Math Psych 2019, July 19-22, 2019, Montréal.

Co-organizer, with Sean Horan, of The CIREQ Montréal workshop on microeconomic theory: foundations of discrete choice models, October 11-12, 2018, Montréal.

Organizer of two sessions at the 43rd annual meeting of the Canadian Economics Assocatiation, 2009.

Program Committee, 24th Canadian Econometrics Study Group Conference, Montreal 2007

External examiner for Frédéric Broussau, Ph.D. candidate at the Université du Québec à Montréal, defended August 7, 2014.

External examiner for Zhongfang He, Ph.D. candidate at the University of Toronto, defended July 22, 2009.

External examiner for Sid Ali Amedah, Ph.D. candidate at the Université Laval, defended June 2, 2008.

Courses Taught

Mathematical Economics II (ECN 1075), Université de Montréal

Microeconomic Theory (ECN 2040), Univerité de Montréal

Econometrics I (ECN 2160), Université de Montréal

Workshop in Applied Econometrics (ECN 3949), Université de Montréal

Workshop in Applied Economics (ECN 3950), Université de Montréal

Honours Applied Econometrics (ECN 4160), Université de Montréal

Elements of Microeconomics (ECN 6013), Université de Montréal

Microeconomics Workshop (ECN 6053), Université de Montréal

Econometrics of Financial Markets (ECN 6578), Université de Montréal

Probability for Economists (ECN 6223, ECN 7060), Université de Montréal

Bayesian Econometrics (ECN 7223B, ECN 7069B), Université de Montréal

Bayesian Time Series Econometrics (ECN 7069B), Université de Montréal

Bayesian Econometrics, IMF Institute, Washington, D.C.

Student Supervision

Ph.D.

Samuel Gingras, "Essais sur les problèmes de décisions dynamiques et leurs applications," May 2021.

Laurent Kemoe, "Three Essays in Macro-finance, International Economics and Macro-econometrics," May 2017, codirected with Hafedh Bouakez (HEC Montréal).

Barnabé Djegnéné, "Essays on numerically efficient inference in nonlinear and non-Gaussian state space models, and commodity market analysis," June 2013, codirected with Gérard Gaudet (Université de Montréal).

Shirley Miller Lira, "Stochastic Volatility: A New Efficient Approach with Applications to Finance and Macroeconomics," September 2012, codirected with Éric Jaquier (HEC Montréal).

Sébastien Blais, "Analyse bayesienne des modèles de structure à terme," (Bayesian Analysis of Term Structure Models), September 2009.

M.Sc.

Guy Arnold Djolaud Kili, "Model Espace-état: Estimation Bayesienne du NAIRU USA," September 2017. (co-supervised with Immo Schott)

Ian Barrett, "The Responsiveness of Government Revenue to Marginal Tax Rates," May 2016.

Abdoul Karim Nchare Fogam, "Analyse comparative de la pauvreté et de la structure de consommation des ménages dans la principale agglomération des états membres de l'UEMOA en 2008," September 2015. (co-supervised with Marine Carrasco)

Désiré Kédagni, "Identification of inequality measures in selection models," August 2015. (co-supervised with Marine Carrasco)

Vladimir Khripunov, "Estimating preferences with random utility models," April 2012.

Mahamadou Moribé Sangaré, "La construction des probabilités des événements politiques à partir des prix dans les marchés prédictifs," (Construction of Probabilities of Political Events from Prices in Predictive Markets) September 2009.

Fréderic El Cherif, "A Time Varying Coefficient Model for Changes to an Airline's Stock Price in Response to Changes in Prices of Various Futures Contracts for Heating Oil," July 2009.

Said Abidoune, "Volatilité stochastique du taux de change nominal canadien dans une persperctive de long et court terme," (Stochastic Volatility of the Nominal Canadian Exchange Rate in a Long- and Short-Term Perspective) April 2009.

El Housseini Diawlol, "Une couverture dynamiques sur les futures du carburant : exemple d'Air Canada," (Dynamic hedging using fuel futures: the case of Air Canada) January 2009.

François Rebello, "L'impact de la responsabilité sociale sur la valeur boursière des entreprisesÊ: le cas des droits humains," (The Impact of Social Responsibility on Firms' Market Capitalization: the Case of Human Rights) September 2008.

Nguedia Pierre Évariste Nguimkeu, "Bayesian Estimation of Correlation Matrices: Application to the Multivariate GARCH Model," August 2008.

Anderson Walter Nzabandora, "Estimation bayésienne des matrices de corrélation : stratégies de formulation de lois a priori," (Bayesian Estimation of Correlation Matrices: Prior Specification Strategies) April 2008.

Omar Foutlane, "Portfolio Risk Analysis and Rebalancing Using a Multifactor Model," May 2007.

Oren Tapiero, "Testing Techniques and Forecasting Ability for FX Options Implied Risk Neutral Densities", May 2007.

Thomas Larouche, "Comparaison de tests de réversibilité temporelle avec une approche MBBÊ: preuves provenant de séries chronologiques financières," (Comparison of Time Reversibility Tests using a Moving Block Bootstrap Approach: Evidence from Financial Time Series) June 2006.

Raphaël Gendron, "Analyse bayésienne d'un modèle pour les changements de prix de titres échanges à haute fréquence sur les marchés financiers," (Bayesian Analysis of a Price Change Model for High Frequency Stock Exchange Data) March 2006.

Constant Aimé Lonkeng Ngouana, "Analyse bayésienne des modèles de durée des transactions financières de haute fréquence," (Bayesian Analysis of Duration Models for High Frequency Financial Transactions) March 2006.

Simon Leblond, "Comparing Predictive Accuracy of Real Estate Pricing ModelsÊ: An Applied Study for the City of Montréal," April 2005.