Yang LU

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Department of Mathematics
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Concordia University
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IMMIGRATION STATUS

Chinese citizen, Canadian permanent resident, French permanent resident.

EMPLOYMENT

June 2024–Present	Associate professor with tenure, Department of Mathematics and Statistics, Concordia University, Montreal, Canada.
Jan 2021–May 2024	Assistant professor, Department of Mathematics and Statistics, Concordia University, Montreal, Canada.
Sep2017-Dec 2020	Assistant professor (maître de conférences), Faculty of Economics and Management, University of Paris 13, France. Tenure obtained and on leave since 2021.
2015–2017	Postdoctoral fellow at Aix-Marseille School of Economics, Aix-Marseille University, France.
2011–2015	Part-time (2 days per week) consulting for Scor Global Life Paris headquarters' actuarial team.

EDUCATION

2012–2015	PhD in Applied Mathematics at Paris-Dauphine University.
	Supervisor : Christian Gouriéroux (CREST and University of Toronto).
	Title : Bivariate Survival Analysis with Latent Factors : Theory and Applications to Mortality and Long-term Care.
	Jury : Christian Genest (referee, McGill), Michel Denuit (referee, Catholique-Louvain), Donatien Hainaut (Catholique-Louvain), Armeille Guillou (Strasbourg), Serge Darolles (Paris-Dauphine), Xavier D'Haultfoeuille (CREST)
2010–2012	Master in Statistics and Economics at ENSAE Paris (National School of Statistics and Economic Administration). Obtained associate membership of the French Institute of Actuaries.
2008–2012	Bsc and Msc in Mathematics (probability) at Ecole Normale Supérieure, Paris.

PROFESSIONAL QUALIFICATIONS

Associate member of the French Institute of Actuaries.

Passed 6 Society of Actuaries Exams : Probability (P) ; Financial Maths (FM) ; Short-Term Actuarial Maths (STAM) ; Investment and Financial Markets (IFM), Statistics for Risk Modeling (SRM), Long-Term Actuarial Maths (LTAM).

PEER-REVIEWED JOURNAL PUBLICATIONS

All authorships for my publications are alphabetic, except papers with student coauthor. Asterix means a graduate student.

1. (With Jian Pei* and Fukang Zhu) Mixed causal-noncausal process, forthcoming in *TEST*.

2. (With C. Gouriéroux) SIR models with stochastic transmission, forthcoming *Canadian Journal of Statistics*.

3. (With W. Zhu and J. Zhang) Cyber risk modeling : A discrete multivariate count process approach, 2024, 6, *Scandinavian Actuarial Journal*. DOI

4. (With Zhanhui Chen, Jinggong Zhang, and Wenjun Zhu) Managing Weather Risk with a Neural Network-Based Index Insurance, 2024, 70(7), *Management Science*. DOI

5. (With C. Gouriéroux) Noncausal Affine Processes with Application to Derivative Pricing, 33(3), 2023, pp. 766-796, *Mathematical Finance*.

6. (With Georges Dionne and Denise Desjardins) Hierarchical random effects for insurance pricing of vehicles belonging to a fleet, 2023, 38(2), pp.242-259, *Journal of Applied Econometrics*.

7. (With Dan Zhu) Modeling Mortality : A Bayesian Factor-Augmented VAR (FAVAR) Approach, 2023, 53(1), 29-61, *ASTIN Bulletin*.

8. (With Himchan Jeong and Jaeyoun Ahn) A simple Bayesian state-space based dependent collective risk models, 2022(10), pp.1-21, *Scandinavian Actuarial Journal*.

9. (With Himchan Jeong and Jaeyoun Ahn) On the ordering of credibility factors, 101(B), 2021, *Insurance : Mathematics and Economics*.

10. (With H. Li and P. Lyu*) Coherent mortality forecasting for less developed countries, 9(9), 2021, *Risks*.

11. (With C. Gouriéroux) Noncausal Counting Processes : A Queuing Perspective, 2021, 15(2), pp. 3852-3891, *Electronic Journal of Statistics*.

12. (With Michel Denuit) Wishart-Gamma Random Effects Model with Applications to Nonlife Insurance, 88(2), 2021, *Journal of Risk and Insurance*

13. The Predictive Distributions of Thinning-based Count Processes, 48(1), 2021, *Scandinavian Journal of Statistics*.

14. (With Hong Li and Wenjun Zhu) Dynamic Bayesian Ratemaking : A Markov Chain Approximation Approach, 25(2), 2021 *North American Actuarial Journal* (project funded by an SOA individual

research grant of which I am the sole lead investigator).

15. The Distribution of Unobserved Heterogeneity in Competing Risks Models, 61(2) 681-696 (2020), *Statistical Papers*.

16. A Simple Parameter-Driven Model for Binary Time Series, 39(2), p.187-199 (2020), *Journal of Forecasting*.

17. (With Serge Darolles, Gaëlle Le Fol, Ran Sun*) Bivariate Integer-Autoregressive Process with An Application to Mutual Fund Flows, 173, 2019, 181-203, *Journal of Multivariate Analysis*.

18. (With C. Gouriéroux) Least Impulse Response Estimator for Stress Test Exercises, 103, 2019, *Journal of Banking and Finance*.

19. (With C. Gouriéroux) Negative Binomial Autoregressive Process with Stochastic Intensity, 40(2), p.225-247 (2019), *Journal of Time Series Analysis*.

20. (With Hong Li) Modelling Competing Risks Using Hierarchical Archimedean Copula with Application to Longevity Forecast, 3, 247-272, (2019), *Scandinavian Actuarial Journal*.

21. (With Han Li, Hong Li, Anastasios Panagiotelis) A Forecast Reconciliation Approach to Cause-of-death Mortality Modeling, 86, p.122-133, 2019, *Insurance : Mathematics and Economics*.

22. Flexible Panel Regression for Bivariate Count/Continuous Data with Insurance Application, 182(4), 1503-1521, 2019, *Journal of the Royal Statistical Society, Series A (Statistics in Society)*.

23. Dynamic Frailty Count Process in Insurance : A Unified Framework for Estimation, Pricing and Forecasting, 85(4), p.1083-1102, 2018, *Journal of Risk and Insurance*.

24. (With Hong Li) A Bayesian Non-parametric Model for Small Population Mortality, 2018(7), p. 605-628, (2018), *Scandinavian Actuarial Journal*.

25. (With Hong Li) Coherent Forecasting of Mortality Rates : A Spatial-Temporal Approach, 47(2), p. 563-600, (2017), *ASTIN Bulletin*.

26. Broken-heart, Common Life, Heterogeneity : Analyzing the Spousal Mortality Dependence, 47(3), p. 837-874, (2017), *ASTIN Bulletin*.

27. (With Christian Gouriéroux) Love and Death : a Freund Model with Frailty, 63, p. 191-203, (2015), *Insurance : Mathematics and Economics*.

SUBMITTED WORKING PAPERS

1. (With C. Gouriéroux) Long-Term Care and Longevity, Revise and Resubmit, 2017 *Journal of Econometrics*. Available as SSRN paper 2347735

2. (With C. Gouriéroux and A. Monfort) Ultra Long Run Term Structure Models, submitted, July 2024. Available as SSRN paper 4160206

3. (With C. Gouréroux) Partial Observability of Volatility Matrices : Identification and Covolatilities Imputation, revised and resubmitted, *Mathematical Finance*. Researchgate link of the paper here.

4. (With Pengyu Wei and Mengyi Xu) Modeling longevity and disability with generalized autoregressive score models. Available as SSRN paper 428202

5. (With C. Gouréroux and A. Monfort) The Risk of Random Sets with Applications to Basket Derivatives, submitted to Journal of Multivariate Analysis, Available as SSRN paper 4534473

6. (With Jaeyoun Ahn, Himchan Jeong and Mario Wuthrich) A Characterization of Observation-Driven Count State-Space Model for Panel Data. Researchgate link of the paper here.

7. (With Jian Pei*) Forecasting natural disaster frequencies using nonstationary count time series models, revised and resubmitted, *Statistical Papers*. Researchgate link of the paper here.

8. (With C. Gouréroux) Markov Determinantal Point Process for Dynamic Random Sets, revised and resubmitted to Journal of Time Series Analysis (second round). Researchgate link of the paper here.

9. (With C. Gouréroux) Corrigendum and Comments to Tang and Tang (2023), "The Poisson Binomial Distribution-Old and New, Statistical Science".

10. (With Caleb Danquah and Patrice Gaillardetz), 2024 "Pricing and hedging in a noncausal Cauchy AR(1) model, submitted.

11. (With Sullivan Hué and Christophe Hurlin) Backtesting Expected Shortfall : A Duration-Severity-based Approach, submitted.

12. (With Jesus Armando de Ita Solis*, Melina Maihot, Xiaochun Meng) Backtesting Expectile : Disentanging Unconditional Coverage and Independence Properties, submitted.

13. (With Hanieh Amjadian*, Patrice, Gaillardetz) Quantifying Model Risk in Property and Casualty Insurance, under minor revision for Variance (project funded by an CAS individual research grant).

WORK IN PROGRESS

1. Estimating the Wishart-gamma multivariate frequency model : A Composite Likelihood approach

2. (With C. Gouréroux) Determinantal Point Process with Stochastic Intensity

3. (With C. Gouréroux and C.Y. Robert) Extremal behavior of the predictive distribution of non-causal/nonfundamental ARMA processes.

EXTERNAL GRANTS

2024 August, 2 Mitacs Globalink Research Award (6000 $ each) to Canada obtained by 2 students of Jaeyoun Ahn (Erwan Women's University) to visit me.

2024 June. Principal Investigator of a SSHRC Insight Development Grant entitled "Econometric Identification and Inference of the Probability of Informed Trading". Funding amount is 45000 $.

2024 March. Co-investigator of a FRQNT grant on "Développement durable du secteur des investissements - le rôle des solutions innovatrices propulsées par l'intelligence artificielle et la science des données". PI is Manuel Morales of University of Montreal. My portion is around 50000 CAD.

2024 March. Principal Investigator. Received 12000 USD from Casualty Actuarial Society for the 2024 Individual Grant Competition. The title of the grant is "Model risk in Property and Casualty Insurance".

2024 January. Principal Investigator. Received 22700$ from Fonds de recherche AMF en gestion intégrée des risques des institutions financières, an academic research fund established by Québec's provincial financial regulator Autorité des Marchés Financiers at Université Laval. The title of the grant is "Which nonstationarity to choose for predicting natural disaster costs in the era of climate change"?

2023 September. Principal Investigator. Received 10000 EURO from 'Thélem / Institut Louis Bachelier Chair (France) in "Data Science and Insurance Fraud Detection" for the project "Forecasting natural disaster frequencies using nonstationary count time series models". The project is conducted by my visiting PhD student Jian Pei under my supervision.

2021-2026. Principal Investigator. NSERC Discovery Grant (as well as Early Career Supplement). Title "Dependence Modeling in Insurance and Finance : Estimation, Ratemaking and Reserving". Funded amount : 130K CAD plus 12.5 K CAD of Early Career Supplement. The 130K basic amount compares favorably with the median grant amount of 105K given out in 2021 by the NSERC 1508 Mathematics and Statistics Evaluation group (only 12 % of the funded projects received a higher funding than mine). The ratings are Very Strong (Excellence of the researcher), Very Strong (Merit of the proposal) and Moderate (Training of HQP, NSERC states that moderate rating is normal for early career researchers).

2021. Co-investigator. Society of Actuaries Committee on Knowledge Extension Research (CKER) individual grant. Title "An Observation-driven Approach to Multi-state Modeling of Mortality and Disability". Other researchers are Principal Investigator is Pengyu Wei (Assistant Professor, University of Waterloo) and co-investigator Mengyi Xu (Assistant Professor, Purdue University). Funded amount : 16 K CAD.

2020. Co-investigator. Academic grant of the Canadian Institute of Actuaries. Title "Transformation Forests for Auto Insurance Risk Modeling". The other researcher is Principal Investigator Hong Li (Assistant Professor, University of Manitoba). Funded amount : 16 K CAD.

2020 : Délégation grant from French National Center of Scientific Research (CNRS). The délégation is a yearly national competition allowing the laureates to buy out one's teaching load. Title of the Grant : "Noncausal Affine Processes with Applications to Finance and Insurance". My grant is worth 8K EUR

and covers half year's teaching.

2019 : Délégation grant from CNRS. Title of the Grant : "Noncausal Affine Processes with Applications to Finance and Insurance". My grant is worth 16K EUR and covers one year's teaching.

2018, Principal Investigator. Society of Actuaries Individual Grant Competition. Title "Dynamic Bayesian Ratemaking : A Markov Chain Approximation Approach". Grant amount : 17,5 K USD. The co-investigators are Hong Li (Assistant Professor, University of Mannitoba, Canada) and Wenjun Zhu (Assistant Professor, Nanyang Technological University, Singapore).

2017, Co-investigator. Society of Actuaries China Research Project. Title "Modeling and Forecasting Chinese Population Dynamics in a Multi-population Context". Grant amount : 9 K USD. Other researchers are Hong Li (PI, Assistant Professor, Nankai University, China) and Pintao Lyu (PhD student, Tilburg University, the Netherlands).

2015, Co-investigator of a grant from three French investment companies on "funding liquidity of mutual fund investors". Other researchers are Serge Darolles (PI), Gaëlle Le Fol, and Ran Sun, all from University of Paris-Dauphine. The grant includes a PhD scholarship for Ran Sun. The project lead to a publication in the Journal of Multivariate Analysis.

PARTICIPATION IN LARGE RESEARCH CONSORTIUMS

— Centre de Recherche de Mathèmatique (CRM, Montreal-wide consortium of researchers in mathematics and statistics, funded by NSERC and FRQNT's team grants), since 2021. For instance, I sit on the CRM postdoctoral committee in 2021, and have been organizing actuarial and financial mathematics seminars since 2021.
— Centre Inter-universitaire de recherche en Economie Quantitative (CIREQ, Montreal-wide consortium of researchers in economics, funded by FRQSC's team grant), since 2023.

INVITED SEMINAR PRESENTATIONS

1. November 2024 : Department of Statistics and Actuarial Science, University of Waterloo, Canada.
2. November 2024 : Department of Mathematics and Statistics, Concordia University, departmental lunch seminar.
3. November 2024 : Department of Finance, Concordia University, Montreal
4. May 2024 : School of Mathematics and Statistics, Fujian Normal University, Fuzhou, China. Title "Backtesting Expected Shortfall : A duration-severity approach".
5. May 2024 : School of Economics, Fudan University, Shanghai, China. Title "Backtesting Expected Shortfall : A duration-severity approach".
6. April 2024 : Departmental of Actuarial and Financial Mathematics, Xijiao Liverpool University, Suzhou, China. Title "Backtesting Expected Shortfall : A duration-severity approach".
7. April 2024 : Center of Financial Engineering, Soochow University, Suzhou, China. Title "Backtesting Expected Shortfall : A duration-severity approach".
8. April 2024 : School of Finance and Statistics, Eastern China Normal University, Shanghai, China. Title "Backtesting Expected Shortfall : A duration-severity approach".
9. May 2023 : (online) Jilin University, China. School of Mathematics. Title "Partial Observability of Covolatility Matrices : Identification and covolatility imputation".

10. February 2023 : University of Toronto, Department of Statistical Sciences. Title "Hierarchical random effects for insurance pricing of vehicles belonging to a fleet".

2022 : **No outside seminar presentations due to birth of the second child.**

11. March 2021 : Internal Department Seminar, Concordia University

12. November 2021 : online Econometrics seminar at Department of Economics, York University (Canada)

13. January 2020 : "Noncausal affine process with applications to derivative pricing" at Department Seminar, Department of Mathematics and Statistics, Concordia University

14. January 2020 "Noncausal affine process with applications to derivative pricing" at Department Seminar, Department of Risk Management and Insurance, Georgia State University

15. January 2020 "Noncausal affine process with applications to derivative pricing" at Department Seminar, School of Risk and Actuarial Studies, University of New South Wales

16. February 2020 "Noncausal affine process with applications to derivative pricing" at Department Seminar, Department of Statistics and Actuarial Science, Simon Fraser University

17. February 2020 "Noncausal affine process with applications to derivative pricing" at Department Seminar, Department of Mathematics, U. of Franche-Comté (France)

18. February 2020 "Noncausal affine process with applications to derivative pricing" at Department Seminar, Department of Statistics, ENSAI Rennes.

19. 2019 : "Noncausal affine process with applications to derivative pricing" at Center for Operations Research and Econometrics, Université Catholique Louvain, Belgium

20. "Noncausal affine process with applications to derivative pricing" at Division of Finance, Nanyang Techonological University

21. "Noncausal affine process with applications to derivative pricing" at Department of Econometrics and Business Statistics, Monash University

22. "Noncausal affine process with applications to derivative pricing" at Department of Statistics and Actuarial Science, University of Waterloo

23. "Noncausal affine process with applications to derivative pricing" at Department of Mathematics and Statistics, Université de Montréal.

24. 2017 : EM. Lyon France, U. Cergy-Pontoise (France), U. Orléans (France), U. Mannheim (Germany), U. Amsterdam (the Netherlands), SUNY at Albany, IUPUI, U. Waterloo, Nanyang Technological U. (Singapore), U. Aix-Marseille (France), Nankai University (China).

25. 2016 : CREST, U. Lyon.

26. 2015 : U. Strasbourg, Monash U., Georgia State U., Australian National U., U. Vienna, U. Aix-Marseille.

27. 2014 : EM Lyon.

CONFERENCE PRESENTATIONS

1. October 2024 (invited, scheduled), Canadian Econometrics Study Group, York University, Toronto. 1 presentation by myself ("Backtesting Expected Shortfall : A duration-severity approach"), 1 presentation by coauthor ("The Risk of Random Sets with Applications to Basket Derivatives") and one paper discussion.

2. December 2024, Ercim-CFE conference, London, UK. 1 invited presentation by me ("Mixed Causau-noncausal count processes") and one contributed presentation by coauthor "Backtesting Expectile : Disentangling Unconditional Coverage and Independence Properties".

3. May 2024, Toulouse Financial Econometrics Conference, "The Risk of Random Sets with Applications to Basket Derivatives" (by co-author).

4. December 2023, the 16th International Conference of the ERCIM WG on Computational and Methodological Statistics (CMStatistics 2023), Berlin, "The Risk of Random Sets with Applications to Basket Derivatives" (by co-author).

5. May, 2023, **Invited**,"Partial observability of volatility matrices : Identification and covolatilities imputation" Montreal CIREQ annual econometric conference.

6. May, 2023, **Invited**, "Partial observability of volatility matrices : Identification and covolatilities imputation" Annual financial econometrics conference at Toulouse School of Economics.

7. March, 2023, **Invited** "Ultra Long Run Term Structure Models" Paris 2023 International Risk Forum (by co-author).

8. May 2023, "Ultra Long Run Term Structure Models" Annual financial econometrics conference at Toulouse School of Economics (by co-author).

No conference presentation in 2021-2022 due to birth of child.

9. September 2021, European Group of Risk and Insurance Economists (EGRIE),"Hierarchical random effect model for fleet insurance pricing", (by co-author).

10. July 2021 : Société Canadienne des Sciences Economiques, "Hierarchical random effect model for fleet insurance pricing." (by co-author).

11. August 2021 : **Invited** talk (and chair of a four-paper plenary session) at the Workshop on Financial Mathematics and Actuarial Sciences organized by the Department of Mathematics at University of Prince Edward Islands.

12. July 2021 : **Invited** to chair a session (Mortality and machine learning) at the Insurance : Mathematics and Economics annual conference.

13. July 2021 : **(Invited)** "hierarchical random effect for insurance pricing" at Statistics 2021 conference.

14. July 2021 : **(Invited)** "Least Impulse Response Estimator for Stress test" at Statistics 2021 organized by Concordia

15. June : **(Invited)** "hierarchical random effect for insurance pricing" at Society of Applied and Industrial Mathematics (SIAM) annual Financial Mathemtics conference (Invited session on Mathematical and Statistical methods for Risk and Insurance).

16. March **(Invited)** : "SIR model with stochastic transmission" Paris 2021 International Risk Forum.

17. June 2019 : "Noncausal affine process with applications to derivative pricing" at Insurance : Mathematics and Economics (IME) congress in Munich, Germany

18. June 2019, "Noncausal affine process with applications to derivative pricing" at Society of Financial Econometrics annual congress in Shanghai, China

19. March 2019, "Modeling interest rate at the Zero lower bound" at Paris International Risk Forum

20. Novemer 2019, "Noncausal affine process with applications to derivative pricing" at 11th French Econometrics Conference (Marseille)

21. November 2018 : Paris December Finance Meeting (by co-author) "Modeling hedge fund liquidity with bivariate integer-valued autoregressive process".

22. June 2017 : Society of Nonlinear Dynamics and Econometrics (Paris), International Association of Applied Econometrics (Sapporo)

23. 2016 : CFE-ERCIM (Sevilla)

24. 2015 : Insurance : Mathematics and Economics (IME) annual conference in Liverpool, UK.

25. 2014 : IME Shanghai

26. 2013 : IME Copenhagen

COURSES TAUGHT

At Concordia University :
— Risk Analytics in Insurance and Credit Risk with R : graduate, winter 2021
— ACT 458 Credibility Theory, Fall 2021, 2022, 2023, 2024(accredited by the Canadian Institute of Actuaries).
— MACF 301 (formerly MAST 397) Introduction to Quantitative Finance (accredited by the Canadian Institute of Actuaries), Fall 2021, 2022, 2023, 2024
— STAT 460 Time Series and Forecasting (accredited by the Canadian Institute of Actuaries), Winter 2022, 2024
— STAT 489 Reinforcement learning, Winter 2024
— MATH 209 Fundamental Mathematics (for first year business students), winter 2025
— Coordinator of all sections (10+) of MATH 209 in 2024-2025.

At University Paris 13 :
— Introduction to risk and insurance : undergraduate, 2017, 2018,
— Mini-course in life insurance : graduate, 2016
— Graduate seminar in non-life insurance : 2018
— Time Series Econometrics : graduate, 2015-2018
— Econometric techniques for quantitative finance : graduate, 2017, 2018
— Introduction in R : undergraduate, 2020
— Introduction to non-life insurance : graduate, 2020

STUDENT SUPERVISION

PhD students :
— Gael Anne (Concordia), 0/92024 to date, co-supervised with Dr. Xiaowen Zhou. Currently doing course work.
— Jian Pei (Jilin University), 2022/12 to 2023/12 (13 months). Visiting PhD student from Jilin University, China. Ms Pei received a competitive Chinese Scholarship Council (CSC) study abroad grant to visit me. Her supervisor at Jilin University is Prof. Fukang Zhu. Her research topic is count time series. Two workings papers were completed during the visit. The first "Mixed Causal-Noncausal Count Process" is published in the journal *TEST* and the second "predicting natural disaster occurrences in Canada using nonstationary count process models" is currently under revision with Statistical Papers. The second paper also received a **10000 Euro grant** from Thelem/Institut Louis Bachelier chair on Insurance. First placement : Assistant professor of Statistics, Beijing University of Civil Engineering and Architecture, China.
— Hanieh Amjadian, 2022/1 to date, co-supervised with Dr. Patrice Gaillardetz. Passed comprehensive exam in July 2023 and is currently conducting research on credit risk as well as completing the last course. One paper currently under minor revision with Variance.
— Samaneh Sami Kermani (Concordia), 2022/1 to date, co-supervised with Dr. Frédéric Godin. Passed comprehensive exam in November 2023 and is currently starting research.

— Safoora Zarei (Concordia), 2021/9 to 2023/08 co-supervised with Dr. Patrice Gaillardetz. Ms Zarei did not do research since she failed twice the department's comprehensive exam on statistics and had to withdraw from the program per departmental policy. She maintained satisfactory GPA and transferred to the PhD program at Western University in fall 2023.
— Ran Sun (Concordia), 2015/9 - 2019/6. Thesis defended at Paris-Dauphine University. Co-supervised with Serge Darolles and Gaelle Le Fol. Thesis Title : Liquidity Risk in the Universe of Open-End Fun. We had one publication in Journal of Multivariate Analysis.

 Masters' students :
— Avi Lumbroso (Concordia), 2024/9 to date.
— Jesus Armando de Ita Solis (Concordia), 2021/9 to 2023/9, co-supervised with Dr. Mélina Mailhot. Topic : Backtesting Expectile with moment conditions. Thesis defended and accepted in August 2023. First placement : Research and Development at Insurer Co-operator (Montreal). Now with insurer Intact as actuarial analyst.
— Caleb Danquah (Concordia), 2021/9 to 2023/12, co-supervised with Dr. Patrice Gaillardetz. Topic : Quadratic hedging under the noncausal AR(1) model. Thesis defended and accepted in December 2023. First placement : actuarial analyst at PwC Canada.

Undergraduate students :
— Kyle McRae, 2023/5-2023/8. Funded by a Concordia University Undergraduate Research Award (CURSA), and worked on clustering of mortality rates for the 10 Canadian provinces. He also received and declined an Institut des sciences mathématiques (ISM, consortium of eight Québec universities for mathematics training and collaboration). First placement : Mathematical Statistician at Statistics Canada.

SERVICE

Committee works
2024-2025 : Deputy director of Quantact Laboratory in Actuarial and Financial Mathematics.

2022-2026 : Member of the University NSERC/CIHR Doctoral and CIHR Vanier Selection Committee

2022-2025 : Member of the Department Graduate Studies Committee (major task : participating in designing and marking of comprehensive exam, selecting nominees for prizes), Department Co-op Committee, and Department Curriculum Committee (tasks : University Open House, assisting the actuarial science program director for the accreditation campus visit)

2022 : Member of the hiring committee of a limited term appointment in Pure and Applied Mathematics, Concordia University (I only participated in the first round of screening due to birth of child).

2021-2022 and 2024-2025 : Member of the selection committee of the Centre de Recherche de Mathematique CRM-ISM postdoctoral fellowships

2021-2022 : Member of the hiring committee of a tenure-track position in Applied Mathematics at Concordia University

2020-2021 : Member of the selection committee of an assistant professor position in quantitative economics at University of Paris 13 ; external member of the selection committee of an assistant professor

position in financial economics at University of Paris Nanterre.

2019-2020 : Program director of the actuarial science master's program at University of Paris 13. Completed tasks include
— Updating and budgeting the curricular and securing the accreditation of the Ministry of Higher Education
— Recruiting students
— Recruiting professional actuaries as adjunct professors

2018-2020 : Member of the Scientific Committee of the MME-DII Laboratory of Excellence (Labex) in Mathematical and Economic Modelling. The MME-DII Labex is a large research grant involving five Parisian Universities (Paris 2, Paris 10, Paris 13, Cergy-Pontoise and ESSEC Business School) overseeing an annual research budget in excess of 1 M euros (see their website `labex-mme-dii.u-cergy.fr/?lang=en`). Tasks include selection of International visiting chairs, chairs of excellence, teaching buyout grants, post-doctoral grants, PhD scholarships, conference proposals, etc.

Thesis examination
1. December 2024 : PhD thesis examiner for Emmanuel Osei Mireku (Concordia, Maths & Stat)
2. November 2024 : PhD proposal examiner for Zaniar Ahmadi (Concordia, Maths & Stat)
3. September 2024 : PhD thesis examiner for Sebastien Jussup (Concordia, Maths & Stat)
4. May 2024 : PhD thesis examiner for Marie Michaelides (UQAM, Maths & Stat)
5. April 2024 : Master thesis examiner for Parisa Darva (Concordia, Maths & Stat)
6. December 2023 : Master thesis examiner for Eloi D'amour Bizimana (Concordia, Maths & Stat)
7. September 2023 : PhD proposal examiner for Sebastian Jessup (Concordia, Maths & Statistics)
8. August 2023 : Msc thesis examiner for Helia Alipanah (Concordia, Maths & Statistics)
9. August 2023 : PhD thesis examiner for Terry Easlick (Concordia, Maths & Statistics)
10. August 2023 : PhD thesis examiner for Roxane Turcotte (UQAM, Maths & Statistics)
11. January 2023 : PhD thesis examiner for Roba Bairakdar (Concordia, Maths & Statistics)
12. July 2023 : PhD proposal examiner for Emmanuel Osei Mireku (Concordia, Maths & Statistics)
13. July 2023 : PhD's thesis examiner for Ramin Eghbalzadeh (Concordia, Maths & Statistics) and Roba Bairakdar (Concordia, Maths & Statistics).
14. July 2022 : Master's thesis examiner for Emily Wright (Concordia, Maths & Statistics).
15. July 2022 : PhD proposal examiner for Ramin Eghbalzadeh (Concordia, Maths & Statistics)
16. July 2022 : PhD proposal examiner for Terry Easlick (Concordia, Maths & Statistics)
17. July 2022 : PhD thesis examiner for Abdoul Haki Maoude, (University of Montreal, Dept. Maths and Stat).
18. June 2022 : Msc thesis examiner for Rawanda Matar, (UQAM, Dept. Maths and Stat).
19. July 2021 : Msc thesis examiner for Nahid Sadr (Concordia, Dept. Maths and Stat).

Scientific event organization
2024-2025 : Co-organiser of the Quantact thematic day in Finance.

2023-2024 : Main organiser of the "Workshop in Insurance Mathematics", a bi-annual workshop in the field of actuarial mathematics. The organizer rotates across Quebec and Ontario Universities. The 2024 edition is held for the first time at Concordia. There were 60 attendants and for the first time in the history

of this workshop series, student poster sessions have been organized, and student registration fee waived, increasing significantly student participation. The workshop website is : `https://wim2024.weebly.com`. The budget (6K) is granted by CRM's Quantact laboratory.

2021-2024 : Member of the organization committee (as a representative of Concordia) of the Quantact seminars (the Quebec-wide actuarial science seminar series)

June 2018 : Organization of a one-day workshop in financial econometrics, at University Paris 13. Senior invited speakers include C. Gouriéroux (Toronto), N. Meddahi (TSE), G. Chevillon (ESSEC), R. Tedongap (ESSEC), M. Dacorogna (Prime Re Solutions) and P. Soulier (Paris 10).

Letter writing
2025 : 1 Tenure Evaluation letter.

Peer review service

Highlight : In 2022, I was among the 12 individuals to receive the **Special Recognition for Excellence in Reviewing** from the Journal of Risk and Insurance for the period 2019-2022. This is the flagship journal of the American Risk and Insurance Association and the top journal for the field of insurance broadly defined (actuarial science, risk management, insurance economics, etc).

2025 : Review for Mathematical Finance.
2024 : Review for NSERC Discovery Grant (3 applications, Mathematics and Statistics Evaluation Group), Operations Research, ASTIN Bulletin, European Actuarial Journal (2 papers), Insurance : Mathematics and Economics (3 papers), North American Actuarial Journal, Scandinavian Journal of Statistics, Journal of Futures Markets, Discover Data, Postgraduate Research Scholarship at Xi'an JiaoTong Liverpool University.

2023 : (Reduced load due to parental leave, 12 reports in total) Review for NSERC Discovery Grant (3 applications, Mathematics and Statistics Evaluation Group), Acta Biotheoretica (1 paper), Insurance : Mathematics and Economics (3 papers), Agence Nationale de la Recherche (France, Economics evaluation group), 1 grant. Astin Bulletin, Handbook of Insurance 3rd Edition, Journal of Statistical Computation and Simulation, Journal of Time Series Analysis.

2022 : (13 reports in total) Review for NSERC Discovery Grant (1 application) ; Review for Computational Statistics and Data Analysis, Insurance : Mathematics and Economics (2 papers), North American Actuarial Journal, Journal of Econometrics, International Journal of Forecasting, Scandinavian Actuarial Journal, Scandinavian Journal of Statistics, Journal of Business and Economic Statistics, Journal of Data Science, Journal of Statistical Computation and Simulation, Quantitative Finance.

2021 : (13 reports in total) Review for Astin bulletin, Scandinavian Actuarial Journal (2 papers), Agence Nationale de la Recherche (France, mathematics evaluation group). (1 grant), Computational Statistics and Data Analysis, Journal of Risk and Insurance (3 papers), Annals of Actuarial Science, Insurance : Mathematics and Economics (2 papers), Econometrics and Statistics (2 papers).

2020 : (16 reports in total) Review for Journal of Time Series Analysis, Annals of Actuarial Science (2 papers), Journal of Risk and Insurance (3 papers), Scandinavian Journal of Statistics, Scandinavian Actuarial Journal (2 papers), European Actuarial Journal, Astin Bulletin (2 papers), Journal of Banking

and Finance, Insurance : Mathematics and Economics (3 papers)