

Mario Ghossoub

University of Iowa

Department of Statistics and Actuarial Science

263 Schaeffer Hall – 20 East Washington Street

Iowa City, IA 52242

United States

Email: mario-ghossoub@uiowa.edu

Website: <https://stat.uiowa.edu/people/mario-ghossoub-0>

Other: [Google Scholar Profile](#) and [ORCID Profile](#)

Last Updated: Aug. 2026

Personal Canadian citizen – Bilingual (French-English)

Research Interests Equilibria and Pareto-Efficiency in Risk-Sharing Markets, Decentralized Insurance, Peer-to-Peer Insurance, Information Asymmetry in Risk-Sharing Markets, Optimal Insurance Design, Risk Measurement & Management, Ambiguity and Model Uncertainty, Climate Risk Insurance, Agricultural Insurance

Professional Designations

- Fellow of the Society of Actuaries ([FSA](#))
- Fellow of the Canadian Institute of Actuaries ([FCIA](#))
- Chartered Enterprise Risk Analyst ([CERA](#))
- Financial Risk Manager ([FRM](#)) – Certified by the [Global Association of Risk Professionals](#)

Academic Experience

- **University of Iowa** As of Aug. 2026
Professor – Ralph H. and Ursula F. Goebel Endowed Chair in Actuarial Science
Dept. of Statistics & Actuarial Science
- **University of Waterloo** Sept. 2023 - Aug. 2026
Sun Life Fellow in International Actuarial Science
- **University of Waterloo** As of July 2022
Associate Professor (with tenure) – Dept. of Statistics & Actuarial Science
On leave during the academic year 2026-2027
- **University of Waterloo** May 2017 - June 2022
Assistant Professor – Dept. of Statistics & Actuarial Science
- **Imperial College London** Aug. 2013 - Aug. 2016
Assistant Professor – Dept. of Finance
On leave during the academic year 2015-2016
- **Université de Montréal** Aug. 2011 - Jul. 2013
SSHRC Postdoctoral Fellow – Dept. of Economics

Education	• University of Waterloo , Ph.D. – Actuarial Science	2008 - 2011
	• University of Michigan , M.S. – Mathematics	2005 - 2006
	• Institut d'Études Politiques de Paris (Sciences Po) Cycle International d'Études Politiques Emphasis on Microeconomic Theory, Finance, and Game Theory	2004 - 2005
	• Notre Dame University , B.S. – Actuarial Science (<i>Summa Cum Laude</i>)	2000 - 2004
Visiting Positions	• Conservatoire National des Arts et Métiers – Paris Actuariat et Science du Risque – Dept. of Actuarial and Risk Sciences	June 2024
	• University of Melbourne Faculty of Business and Economics – Dept. of Economics	Nov. 2023
	• Australian National University College of Business and Economics – Research School of Economics	Oct-Nov. 2023
	• CREST-ENSAE – Paris Dept. of Finance and Insurance	April 2022, June-July 2022
	• Centre d'Économie de la Sorbonne – Paris Dept. of Microeconomic Theory	June 2022
	• KU Leuven Faculty of Economics and Business – Dept. of Accountancy, Finance & Insurance Actuarial Research Group	May-June 2022
	• Université Catholique de Louvain Institute of Statistics, Biostatistics and Actuarial Sciences	Apr-May 2022
	• Université de Montréal Centre Interuniversitaire de Recherche en Économie Quantitative (CIREQ)	Oct-Nov. 2019
	• University of Amsterdam Faculty of Economics and Business - Dept. of Quantitative Economics	Sept. 2019
	• Chinese University of Hong Kong Department of Systems Engineering and Engineering Management	Apr. 2019
	• Northwestern University – Kellogg School of Management Center of Mathematical Studies in Economics and Management Dept. of Managerial Economics and Decision Sciences	Fall 2012
	• Université de Montréal – Dept. of Economics	Sept. 2010
	• Bocconi University – Dept. of Decision Sciences	Jul. 2010

Publications

1. **Stackelberg Equilibria in Monopoly Insurance Markets with Probability Weighting**
(with [Maria Andraos](#), [Bin Li](#), and [Benxuan Shi](#))
ASTIN Bulletin, Forthcoming.
2. **Counter-Monotonic Risk Allocations and Distortion Risk Measures**
(with [Qinghua Ren](#) and [Ruodu Wang](#))
Scandinavian Actuarial Journal, 2026(3):324-347, 2026
3. **Counter-Monotonic Risk Sharing with Heterogeneous Distortion Risk Measures**
(with [Qinghua Ren](#) and [Ruodu Wang](#))
Insurance: Mathematics and Economics, 128(1):103236, 2026
4. **Subgame Perfect Nash Equilibria in Large Reinsurance Markets**
(with [Maria Andraos](#) and [Michael B. Zhu](#))
Insurance: Mathematics and Economics, 127(1):103210, 2026
5. **Efficiency in Pure-Exchange Economies with Risk-Averse Monetary Utilities**
(with [Michael B. Zhu](#))
Mathematical Finance, 36(1):99-117, 2026
6. **Pareto-Optimal Peer-to-Peer Risk Sharing with Robust Distortion Risk Measures**
(with [Michael B. Zhu](#) and [Alfred Chong](#))
ASTIN Bulletin, 55(3):537-563, 2025
7. **The Multiarmed Bandit Problem Under the Mean-Variance Setting**
(with Hongda Hu, [Arthur Charpentier](#), and [Alexander Schied](#))
European Journal of Operational Research, 324(1):168-182, 2025
8. **Risk-Constrained Portfolio Choice under Rank-Dependent Utility**
(with [Michael B. Zhu](#))
Finance and Stochastics, 29(2):399-442, 2025
9. **Bowley-Optimal Convex-Loaded Premium Principles**
(with [Bin Li](#) and [Benxuan Shi](#))
Insurance: Mathematics and Economics, 121(1):157-180, 2025
10. **Comonotonicity and Pareto Optimality, with Application to Collaborative Insurance**
(with [Michel Denuit](#), [Jan Dhaene](#), and [Christian Y. Robert](#))
Insurance: Mathematics and Economics, 120(1):1-16, 2025
11. **(No-)Betting Pareto Optima under Rank-Dependent Utility**
(with [Patrick Beissner](#) and [Tim J. Boonen](#))
Mathematics of Operations Research, 49(3):1452-1471, 2024
12. **Bounds on Choquet Risk Measures in Finite Product Spaces with Ambiguous Marginals**
(with [David Saunders](#) and [Kelvin Shuangjian Zhang](#))
Statistics & Risk Modeling, 41(1-2):49-72, 2024
13. **Pareto-Efficient Risk Sharing in Centralized Insurance Markets with Application to Flood Risk** (with [Alfred Chong](#) and [Tim J. Boonen](#))
Journal of Risk and Insurance, 91(2):449-488, 2024
Special Issue on Climate Change and Natural Disasters

14. **Stackelberg Equilibria with Multiple Policyholders**
(with [Michael B. Zhu](#))
Insurance Mathematics and Economics, 116(1):189-201, 2024
15. **Pareto-Optimal Insurance with an Upper Limit on the Insurer's Exposure**
(with Oma Coke and [Michael B. Zhu](#))
Scandinavian Actuarial Journal, 2024(3):227-251, 2024
16. **Optimal Insurance for a Prudent Decision Maker under Heterogeneous Beliefs**
(with [Wenjun Jiang](#) and [Jiandong Ren](#))
European Actuarial Journal, 13(2):703-730, 2023
17. **Equilibria and Efficiency in a Reinsurance Market**
(with [Michael B. Zhu](#) and [Tim J. Boonen](#))
Insurance Mathematics and Economics, 113(1):24-49, 2023
18. **Maximum Spectral Measures of Risk with given Risk Factor Marginal Distributions**
(with Jesse Hall and [David Saunders](#))
Mathematics of Operations Research, 48(2):1158-1182, 2023
19. **Optimal Insurance under Maxmin-Expected-Utility**
(with Corina Birghila and [Tim J. Boonen](#))
Finance and Stochastics, 27(2):467-501, 2023
20. **Bowley vs. Pareto Optima in Reinsurance Contracting** (with [Tim J. Boonen](#))
European Journal of Operational Research, 307(1):382-391, 2023
21. **Pareto-Optimal Reinsurance under Individual Risk Constraints**
(with [Wenjun Jiang](#) and [Jiandong Ren](#))
Insurance: Mathematics and Economics, 107:307-325, 2022
22. **Aggregation of Opinions and Risk Measures**
(with [Massimiliano Amarante](#))
Journal of Economic Theory, 196:105310, 2021
23. **On the Continuity of the Feasible Set Mapping in Optimal Transport**
(with [David Saunders](#))
Economic Theory Bulletin, 9:113-117, 2021
24. **Comparative Risk Aversion in RDEU with Applications to Optimal Underwriting of Securities Issuance** (with [Xuedong He](#))
Insurance: Mathematics and Economics, 101(1):6-22, 2021
25. **Optimal Reinsurance with Multiple Reinsurers: Distortion Risk Measures, Distortion Premium Principles, and Heterogeneous Beliefs**
(with [Tim J. Boonen](#))
Insurance: Mathematics and Economics, 101(1):23-37, 2021
26. **Budget-Constrained Optimal Retention with an Upper Limit on the Retained Loss**
Scandinavian Actuarial Journal, 2020(3):245-271, 2020

27. **Bilateral Risk Sharing with Heterogeneous Beliefs and Exposure Constraints**
(with [Tim J. Boonen](#)) – *Finalist of the SCOR/EGRIE Best Paper Award*
ASTIN Bulletin, 50(1):293-323, 2020
28. **Budget-Constrained Optimal Insurance with Belief Heterogeneity**
Insurance: Mathematics and Economics, 89(1):79-91, 2019
29. **On the Existence of a Representative Reinsurer under Heterogeneous Beliefs**
(with [Tim J. Boonen](#))
Insurance: Mathematics and Economics, 88(1):209-225, 2019
30. **Optimal Insurance under Rank-Dependent Expected Utility**
Insurance: Mathematics and Economics, 87(1):51-66, 2019
31. **Budget-Constrained Optimal Insurance without the Nonnegativity Constraint on Indemnities**
Insurance: Mathematics and Economics, 84(1):22-39, 2019
32. **A Neyman-Pearson Problem with Ambiguity and Nonlinear Pricing**
Mathematics and Financial Economics, 12(3):365-385, 2018
33. **Contracting on Ambiguous Prospects**
(with [Massimiliano Amarante](#) and [Edmund Phelps](#))
The Economic Journal, 127(606):2241-2262, 2017
34. **Arrow's Theorem of the Deductible with Heterogeneous Beliefs**
The North American Actuarial Journal, 21(1):15-35, 2017
35. **Optimal Insurance with Heterogeneous Beliefs and Disagreement about Zero-Probability Events**
Risks, 4(3):29, 2016
36. **Optimal Insurance for a Minimal Expected Retention: The Case of an Ambiguity-Seeking Insurer** - (with [Massimiliano Amarante](#))
Risks, 4(1):8, 2016
37. **Cost-Efficient Contingent Claims with Market Frictions**
Mathematics and Financial Economics, 10(1):87-111, 2016
38. **Equimeasurable Rearrangements with Capacities**
Mathematics of Operations Research, 40(2):429-445, 2015
39. **Vigilant Measures of Risk and the Demand for Contingent Claims**
Insurance: Mathematics and Economics, 61(1):27-35, 2015
40. **Ambiguity on the Insurer's Side: The Demand for Insurance**
(with [Massimiliano Amarante](#) and [Edmund Phelps](#))
Journal of Mathematical Economics, 58:71-78, 2015
41. **Static Portfolio Choice under Cumulative Prospect Theory**
(with [Carole Bernard](#))
Mathematics and Financial Economics, 2(4):277-306, 2010

Other Publications

1. **On Subsidies, Tariffs, and Wholesale Madness**, in *Debating Globalization: International Perspectives on the Global Economic and Social Order*, J.M. Balonze (ed.) – GYAN France, Editions Biliki (2006)

Working Papers

1. **Dynamic Pareto Optima in Multi-Period Pure-Exchange Economies**
(with [Brandon Tam](#) and [Silvana Pesenti](#))
2. **Betting under Common Beliefs: The Effect of Probability Weighting**
(with [Patrick Beissner](#) and [Tim J. Boonen](#))
3. **Incentive Pareto Efficiency in Monopoly Insurance Markets with Adverse Selection**
(with [Maria Andraos](#))
4. **Allocation Mechanisms in Decentralized Exchange Markets with Frictions**
(with [Giulio Principi](#) and [Ruodu Wang](#))
5. **Optimal Allocations with Distortion Risk Measures and Mixed Risk Attitudes**
(with [Qinghua Ren](#) and [Ruodu Wang](#))
6. **Optimal Insurance in a Monopoly: Dual Utilities with Hidden Risk Attitudes**
(with [Bin Li](#) and [Benxuan Shi](#))
7. **Pareto-Optimal Risk Exchange with a Continuum of Agents** (with [Max Nendel](#))
8. **On the Optimal Assignment Problem with Moral Hazard: A Robust Optimal Transport Approach** (with [Michael Kupper](#) and [Max Nendel](#))
9. **A Nonlinear Sandwich Theorem**
(with [Giulio Principi](#) and [Lorenzo M. Stanca](#))
10. **On Belief Singularity and the Optimality of Deductible Indemnity Schedules**
(with [Qiuqi Wang](#))
11. **Loss Aversion for Decision under Risk** (with [Michael B. Zhu](#))
12. **Pareto-Optimal Innovation Contracts in Closed Form**
(with [Massimiliano Amarante](#) and [Edmund Phelps](#))

Grants

- **NSERC Discovery Grant** (2024-2030), Natural Sciences and Engineering Research Council of Canada
- **Casualty Actuarial Society Research Grant** – Cyber Insurance (2022-2023)
(with [Michel Denuit](#), [Olivier Lopez](#), and [Julien Trufin](#))
- **MITACS Accelerate** (2021-2022)
- **NSERC Discovery Grant** (2018-2024), Natural Sciences and Engineering Research Council of Canada
- Society of Actuaries / The Actuarial Foundation - Individual Grant
Managing Model Uncertainty in Insurance-Linked Securities
(with [Enrico Biffis](#))
- **SSHRC Postdoctoral Fellowship**, Social Sciences and Humanities Research Council of Canada, Postdoctoral Fellowship - Held at the University of Montréal (2011 - 2013)
- **NSERC Doctoral Scholarship**, Natural Sciences and Engineering Research Council of Canada, Doctoral Scholarship - Held at the University of Waterloo (2008 - 2011)

Honors and Awards

- **Outstanding Performance Award**, University of Waterloo (2025)
- **Sun Life Fellow in International Actuarial Science**, University of Waterloo (As of Sept. 2023)
- **Math Golden Jubilee Research Excellence Award**, University of Waterloo – Faculty of Mathematics (2023)
- **Excellence in Reviewing Award**, Journal of Risk and Insurance (2023)
- **Top Performance in Teaching**, University of Waterloo (Spring 2019)
- **Nomination for a Tier 2 Canada Research Chair**, University of Western Ontario (2017) *Declined*
- **Excellent Teaching Performance Prize**, Imperial College London (2014 - 2015)
- **President’s Scholarship**, University of Waterloo (2008 - 2011)
- **Society of Actuaries (SOA) James C. Hickman Scholarship**, Doctoral Scholarship - Held at the University of Waterloo (2010 - 2011)
- **WatRISQ Doctoral Scholarship**, Waterloo Research Institute in Insurance, Securities and Quantitative Finance (2011)
- **WatRISQ Doctoral Scholarship**, Waterloo Research Institute in Insurance, Securities and Quantitative Finance (2010)
- **Mathematics Graduate Experience Award**, University of Waterloo (Fall 2010)
- **University of Waterloo Graduate Scholarship** (Winter 2010)
- **Statistics and Actuarial Science Chair’s Award**, University of Waterloo (Fall 2009)
- **IQFI Doctoral Scholarship**, Institute for Quantitative Finance and Insurance – University of Waterloo (2009)
- **Fulbright Scholarship**, U.S. Department of State - Bureau of Cultural Affairs, Held at the University of Michigan (2005 - 2006)
- **Emile Boutmy Scholarship**, Institut d’Études Politiques de Paris – Academic Excellence Scholarship (2004 - 2005)
- **Dean’s List of Distinguished Students, and Tuition Scholarship**, Throughout my undergraduate studies (2000 - 2004)

Talks and Seminars

- **Incentive Pareto Efficiency in Peer-to-Peer Risk Sharing under Private Information:** Foundations and Applications of Decentralized Risk Sharing (May 2026), 13th World Congress of the Bachelier Finance Society (Jun. 2026)
- **Pareto-Optimal Allocations in Large Risk-Sharing Markets:** First ASTIN conference (Jan. 2026)
- **Foundations for Pareto-Optimal Peer-to-Peer Insurance:** University of Iowa (Nov. 2025), RISC Colloquium (Jan. 2026), L^P Seminar at HEC Lausanne (Jun. 2026)
- **Efficiency in Pure-Exchange Economies with Monotone Concave Schur-Concave Utilities:** BIRS Workshop on Optimal Transport and Distributional Robustness (Mar. 2024), OWARS Seminar (Apr. 2024), Foundations and Applications of Decentralized Risk Sharing (May 2024), Bayes Business School (June 2024), 27th International Congress on Insurance: Mathematics and Economics (Jul. 2024)
- **Equilibria in Centralized Insurance Markets: Monopolistic vs. Competitive Pricing:** Australian National University, Research School of Economics (Oct. 2023), University of Melbourne, Dept. of Economics (Nov. 2023), GERAD - HEC Montréal (Dec. 2023)

- **Risk Sharing Rules with Frictions:** Foundations and Applications of Decentralized Risk Sharing (May 2023), 26th International Congress on Insurance: Mathematics and Economics (Jul. 2023)
- **Equilibria in Reinsurance Markets: Monopolistic vs. Competitive Pricing:** Concordia University (Dec. 2022)
- **Bowley vs. Pareto Optima in Reinsurance Contracting:** 24th International Congress on Insurance: Mathematics and Economics (Jul. 2021), Centre Interdisciplinaire en Modélisation Mathématique de l'Université Laval (Feb. 2022), Workshop on Risk Measures and Uncertainty in Insurance at the House of Insurance of the University of Hannover (May 2022), 11th Conference in Actuarial Science & Finance on Samos (May 2022), KU Leuven (June 2022), Amsterdam School of Economics (June 2022)
- **No-Betting Pareto Optima** - Bielefeld Stochastic Afternoon: Math Finance session, University of Bielefeld (Apr. 2021), 2021 Annual Meeting of the American Risk and Insurance Association (Aug. 2021), 48th Annual Seminar of the European Group of Risk and Insurance Economists (Sept. 2021)
- **Bilateral Risk Sharing with Heterogeneous Beliefs and Exposure Constraints** - 4th World Risk and Insurance Economics Congress (WRIEC 2020) - 55th Actuarial Research Conference (ARC 2020), Ryerson University (Oct. 2020), University of Connecticut (Nov. 2020)
- **Optimal Reinsurance with Multiple Reinsurers: Distortion Risk Measures, Distortion Premium Principles, and Heterogeneous Beliefs:** 6th Annual Workshop on Insurance Mathematics – WIM (Feb. 2020), Online International Conference in Actuarial Science, Data Science and Finance (Apr. 2020)
- **Optimal Insurance with an Upper Limit on the Retained Loss:** 23rd International Congress on Insurance: Mathematics and Economics (Jul. 2019)
- **Bilateral Risk Sharing with Heterogeneous Beliefs and Exposure Constraints:** Université Laval (Mar. 2019), Hong Kong University (Apr. 2019), 46th Annual Seminar of the European Group of Risk & Insurance Economists (Sept. 2019 – Nominated for the SCOR/EGRIE Best Paper Award), Quantact Research Seminar at Université du Québec à Montréal (Oct. 2019)
- **Optimal Insurance with Belief Heterogeneity:** 22nd International Congress on Insurance: Mathematics and Economics (Jul. 2018), 2nd International Workshop on Optimal (Re)Insurance (Jul. 2018), 53rd Actuarial Research Conference (Aug. 2018), European Actuarial Journal Conference (Sept. 2018), University of Amsterdam - Faculty of Economics and Business (Sept. 2018), Western University (Oct. 2018)
- **Optimal Insurance without the Nonnegativity Constraint on Indemnities: Ambiguity and Belief Heterogeneity:** 2017 CEAR/MRIC Behavioral Insurance Workshop (Dec. 2017)
- **Optimal Insurance: Belief Heterogeneity, Ambiguity, and Arrow's Theorem:** University of Waterloo (Jan. 2017), Western University (Dec. 2016), University of Michigan, Financial & Actuarial Mathematics Seminar (Apr. 2016)
- **Insurer Ambiguity and the Demand for Insurance:** 2014 CEAR/MRIC Behavioral Insurance Workshop
- **Cost-Efficient Contingent Claims under Nonlinear Pricing:** 2013 Quantitative Behavioural Finance Conference - University of Waterloo (Apr. 2013); 2013 Mathematical Finance Days - Institut de Finance Mathématique de Montréal (May 2013); 13th SAET Conference on Current Trends in Economics (Jul. 2013); University of Manchester - Economic Theory Seminar (Apr. 2014); 2014 Risk, uncertainty and Decision Conference - Warwick Business School; 2014 Foundations of Utility and Risk Conference; 2014 World Congress of the Bachelier Finance Society; 2014 conference of the International Federation of Operational Research Societies; 2014 European Actuarial Journal conference; 2014 European Meeting of the Econometric Society

- **Belief Heterogeneity in the Arrow-Borch-Raviv Insurance Model, and Some Extensions:** Microeconomic Theory Seminar - University of British Columbia (Apr. 2012); 2012 Risk, Uncertainty and Decision Conference - Northwestern University; HEC Montréal - Dept. of Finance (Sept. 2012); Imperial College Business School - Finance Group (Dec. 2012); Risk Theory Society Annual Seminar (Apr. 2013); EGRIE 2013 Meeting (Sept. 2013); Cass Business School - Faculty of Actuarial Science & Insurance (Mar. 2014)
- **On a Class of Monotone Comparative Statics Problems under Heterogeneous Uncertainty, with an Application to Insurance:** Montréal Seminar of Actuarial & Financial Mathematics (Mar. 2012); Financial & Actuarial Mathematics Seminar - University of Michigan (Feb. 2012); Microeconomic Theory Seminar - University of Montréal (Nov. 2011)
- **Contracting for Innovation under Knightian Uncertainty:** Microeconomic Theory Seminar - University of Montréal (Oct. 2011)
- **Contracting under Heterogeneous Beliefs:** Graduate Student Research Conference - University of Waterloo (Apr. 2011)
- **Cooperative Game Theory: A Mathematical Introduction:** Graduate Student Seminar - University of Waterloo (Mar. 2010)
- **Free Will, Uncertainty and the Foundations of Utility – An Introduction to Decision Theory:** Graduate Student Seminar - University of Waterloo (Oct. 2009)
- **Static Portfolio Choice under Cumulative Prospect Theory:** IAREP/SABE 2009 conference - Halifax, NS (Jul. 2009); Graduate Student Research Conference - University of Waterloo (Apr. 2009)
- **The Omega Measure and its Generalization:** University of Waterloo (Nov. 2008)
- **Dual Duration and Liability-Matching Portfolios:** Investment Consulting Group - Hewitt Associates, Toronto (Mar. 2007)

Teaching Experience

- University of Waterloo, *Efficiency and Equilibria in (Re)Insurance Markets* (Graduate), Fall 2024
- University of Waterloo, *Topics in Risk Sharing and (Re)Insurance* (Graduate), Winter 2019, Spring 2021
- University of Waterloo, *Finance I* (Graduate), Fall 2025
- University of Waterloo, *Finance II* (Graduate), Winter 2021, Winter 2023, Winter 2024
- University of Waterloo, *Financial Mathematics III* (Graduate), Spring 2019, Spring 2020, Spring 2021
- University of Waterloo, *Topics in Robust Optimal (Re)Insurance Design* (Graduate), Winter 2019
- University of Waterloo, *Mathematics of Financial Markets* (Undergraduate), Winter 2018, Fall 2018, Winter 2020, Spring 2020, Winter 2023, Winter 2024, Fall 2024, Fall 2025
- University of Waterloo, *Economics* (Master's), Fall 2017
- Imperial College London, *Stochastic Calculus for Finance* (Master's), Autumn 2013 & Autumn 2014

- Imperial College London, *Stochastic Calculus* (Master's), Autumn 2013 & Autumn 2014
- Imperial College London, *Application of MATLAB for Finance* (Master's), September 2014
- Imperial College London, *Derivatives* (Master's), Summer 2014
- Imperial College London, *Quantitative Methods* (Master's), Autumn 2013
- Université de Montréal, *Mathématiques Financières* (Undergraduate), Summer 2012
- University of Waterloo, Teaching Assistant (TA) - *Theory of Probability I* (Ph.D.), Fall 2009 & Fall 2010
- University of Waterloo, TA - *Loss Models II* (Ph.D.), Summer 2009
- University of Waterloo, TA - *Corporate Finance II* (Master's), Winter 2008
- University of Waterloo, TA - *Mathematical Models in Finance* (Ph.D.), Winter 2008
- University of Michigan, Fall 2006: Directed a review and support class on Financial Mathematics for Exam FM of the Society of Actuaries
- University of Michigan, Winter 2006: Directed a review and support class on Probability and Statistics for Exam P of the Society of Actuaries

Student Supervision

- Shuangjian Zhang – Past Postdoctoral Fellow, University of Waterloo
- Corina Birghila – Past Postdoctoral Fellow, University of Waterloo
- Benxuan Shi – Past PhD student, University of Waterloo
(co-supervised with Prof. Bin Lin)
- Michael Zhu – Past PhD student, University of Waterloo
- Maria Andraos – Current PhD student, University of Waterloo
- Mengqiao Lu – Current PhD student, University of Waterloo
(co-supervised with Prof. Fangda Liu)
- Qinghua Ren – Current PhD student, University of Waterloo
(co-supervised with Prof. Ruodu Wang)
- Hongda Hu – Current PhD student, University of Waterloo
(co-supervised with Prof. Alexander Schied)
- Adam Gomes – Past PhD student, University of Waterloo
(part of the PhD advisory committee)
- Jingyi Cao – Past PhD student, University of Waterloo
(part of the PhD advisory committee)
- Yunran Wei – Past PhD student, University of Waterloo
(part of the PhD advisory committee)
- Zheyu Chen – *Forecasting Crop Yields with a GVAR Model*
Master's Thesis, University of Waterloo
- Ziwei Pan – *Trading Volatility in the Heston Model with Transaction Costs*
Master's Thesis, University of Waterloo
- Tim Hao – *Developing Bivariate Weather Index Insurance*
Master's Thesis, University of Waterloo
- Vincent Racine – *Learning Capacities from Data in Large Universes*
Master's Thesis, University of Waterloo

- Shon Czinner – *Portfolio Choice under RDEU, Yaari, and EUT*
Master’s Thesis, University of Waterloo
- Yu Chen – *Measuring Model Risk in Risk Analytics*
Master’s Thesis, University of Waterloo
- Shenglong Li – *Pareto-Optima under Rank-Dependent Utility*
Master’s Thesis, University of Waterloo
- Jiaye Su – *Portfolio Choice under Cumulative Prospective Theory*
Master’s Thesis, University of Waterloo
- Oma Coke – *Budget-Constrained Optimal Insurance with an Upper Limit on the Insurer’s Exposure* – Master’s Thesis, University of Waterloo
- Michael Zhu – *Cost-Efficient Contingent Claims with Choquet Pricing*
Master’s Thesis, University of Waterloo
- Yuanzheng Song – Undergraduate research student, University of Waterloo
- Harris Chen – *Computational Aspects of Optimal Transport*
Undergraduate research project, University of Waterloo
- Michael Zhu – *Loss Aversion for Decision under Risk*
Undergraduate research project, University of Waterloo
- Qisi Deng – Undergraduate research student, University of Waterloo
- Jessica Wang – Undergraduate research student, University of Waterloo
- Jesse Sun – Undergraduate research student, University of Waterloo
- Hao Han – *Pricing American Options by Least Squares Regression*
Master’s Thesis, Imperial College London
- Grigory Budanov – *Complex Adaptive Systems*
Master’s Thesis, Imperial College London
- Weiqiong Shi – *Counterparty Risk and Collateralization of Longevity Swap*
Master’s Thesis, Imperial College London
- Martina Skerlik – *Solvency II*
Master’s Thesis, Imperial College London
- Michael Tang – *Inflation Hedging Through Asset and Sector Rotation*
Master’s Thesis, Imperial College London
- Rebecca Stables – *Pensions as an Asset Class*
Master’s Thesis, Imperial College London

Editorial Activity

- **ASTIN Bulletin:** Member of the Editorial Board

As of Oct. 2023

Refereeing Activity

- **Journals:**
 - *Econometrica, Journal of Economic Theory, Economic Theory, Economic Theory Bulletin, B.E. Journal of Theoretical Economics, Journal of Economic Dynamics and Control, Journal of Mathematical Economics, Mathematical Social Sciences, Economics Bulletin, Decisions in Economics and Finance, Theory and Decision*
 - *Management Science, Mathematics of Operations Research, Operations Research, Operations Research Letters, Operational Research, Information Systems and Operational Research*
 - *Mathematical Finance, Finance and Stochastics, Mathematics and Financial Economics, Quantitative Finance, SIAM Journal on Financial Mathematics, European Journal of Finance, International Review of Economics and Finance, Review of Behavioral Finance*

- *Insurance: Mathematics and Economics*, *ASTIN Bulletin*, *Scandinavian Actuarial Journal*, *North American Actuarial Journal*, *European Actuarial Journal*, *Journal of Risk and Insurance*, *Journal of Insurance Issues*, *The Geneva Risk and Insurance Review*, *Annals of Actuarial Science*
- *Journal of Applied Probability*, *Applied Mathematics and Optimization*, *Journal of Computational and Applied Mathematics*

- **Books:** *Handbook of Insurance*, Springer

- **Agencies:** *Natural Sciences and Engineering Research Council of Canada (NSERC)*, *Swiss National Science Foundation*, *Society of Actuaries*

Other Service

- Former chair of the Society of Actuaries' Hickman Scholars Awards Committee.
- Co-organizer of FADeRiS 2026, the fourth edition of a workshop on the foundations and applications of decentralized risk sharing, at the University of Piraeus (June 2026).
- Co-organizer of FADeRiS 2025, the third edition of a workshop on the foundations and applications of decentralized risk sharing, at the Conservatoire National des Arts et Métiers (June 2025).
- Member of the scientific committee of the workshop *Risk, Uncertainty, and Decision* (RUD).
- Member of the Scientific Advisory Group for the *One World Actuarial Research Seminar* (OWARS).
- Co-organizer of a workshop on Networks, Games, and Risk Sharing at Université du Québec à Montréal (December 2023).
- Co-organizer of a session on Functional Analytic Tools for Financial Decision Making at the Winter Meeting of the Canadian Mathematical Society in Montréal (December 2023).
- Co-organizer of FADeRiS 2023, the first edition of a workshop on the foundations and applications of decentralized risk sharing, at KU Leuven (May 2023).
- Founder and Chair of the organizing committee for the Seminar Series in Actuarial Science and Financial Mathematics at the University of Waterloo (since January 2019).
- Co-organizer of WatSAF¹, the first edition of the Waterloo Conference in Statistics, Actuarial Science, and Finance (April 2019).
- Member of a steering committee for a Thematic Program on Interdisciplinary Quantitative Analysis and Modelling at the Fields Institute (2018-2019).
- Co-organizer of a Fields-CQAM Workshop on Frontier Areas in Financial Analytics (April-May 2019).

Industry Experience

- **The Great-West Life Assurance Company**, Toronto, Canada
Director, Enterprise Risk Management - Risk Modeling (Oct. 2015 - Apr. 2017)
- **Hewitt Associates**, Toronto, Canada – Actuarial Analyst (Feb. 2007 - Dec. 2007)
- **Watson Wyatt Worldwide**, New York City, USA – Actuarial Analyst (Summer 2006)
- **Hewitt Associates**, Paris, France – Actuarial Analyst (Feb. 2005 - June 2005)