

Ziyue Shi | Ph.D. Candidate

Department of Statistics and Actuarial Science
University of Waterloo
200 University Ave W, Waterloo, ON N2L 3G1

Office: M3 Room 4221
Email: ziyue.shi@uwaterloo.ca
Phone: +1 (226) 581-0092

Education

University of Waterloo (UW)	2021.09 – present
Ph.D. Candidate in Actuarial Science, Department of Statistics and Actuarial Science	
Central University of Finance and Economics (CUFE)	2018.09 - 2020.06
M.Ec. in Insurance, Department of Insurance	
China University of Mining and Technology (CUMT)	2014.09 - 2018.06
B.Sc. in Mathematics, Department of Mathematics	

Research Experience

University of Waterloo	2021.09 - present
Projects: Optimal Reinsurance; Quantitative Risk Management; Model Uncertainty; Premium Design	
Supervisors: David Landriault and Fangda Liu	
Central University of Finance and Economics	2019.02 - 2020.12
Project: Optimal Reinsurance	
Supervisor: Hui Meng	
China University of Mining and Technology	2016.04 - 2018.05
Projects: Partial Differential Equations; Pricing of Financial Derivatives	

Research Interest

Actuarial Science, Insurance, Quantitative Risk Management, Financial Mathematics

Publication and Manuscripts

- [1] Landriault, D., Liu, F., & Shi, Z. (2024). Worst-Case Reinsurance Strategy with Likelihood Ratio Uncertainty. *Available at SSRN 4750381*. Accepted by *ASTIN Bulletin*.
- [2] Landriault, D., Liu, F., & Shi, Z. (2024). Performance-based variable premium scheme and reinsurance design. *arXiv preprint arXiv:2412.01704*. Submitted to *Insurance: Mathematics and Economics* (under review).
- [3] Shi, Z., Zhang, W., and Meng, H. (2024). Optimal insurance and reinsurance arrangements under the generalized mean-variance premium principle. (In preparation)
- [4] Shi, Z., Qi, W., & Fan, J. (2020). A new class of travelling wave solutions for local fractional diffusion differential equations. *Advances in Difference Equations*, 2020, 1-15.

Conference and Presentation

Contributed Talks

27th International Congress on Insurance: Mathematics and Economics	2024.07
<i>University of Illinois Urbana-Champaign and DePaul University</i>	<i>Chicago, United States</i>
Title: "Worst-case Reinsurance Strategy with Likelihood Ratio Uncertainty"	
Title: "Insurance Design under a Performance-based Premium Scheme"	
International Conference on Insurance and Actuarial Science	2024.06
<i>Nankai University</i>	<i>Tianjin, China</i>
Title: "Worst-case Reinsurance Strategy with Likelihood Ratio Uncertainty"	
4th Waterloo Student Conference in Statistics, Actuarial Science, and Finance	2023.10
<i>University of Waterloo</i>	<i>Waterloo, Canada</i>
Title: "Insurance Design with Likelihood Ratio Uncertainty"	

Invited Talk

Nankai University	2024.05
Title: "Insurance Design with Tail Risk Measure and Likelihood Ratio Uncertainty"	

Service

5th Waterloo Student Conference in Statistics, Actuarial Science, and Finance	2024.10
<i>University of Waterloo</i>	
Conference Coordinator	

Teaching Experience

Teaching Assistant, University of Waterloo

ACTSC 221 - Introductory Financial Mathematics	Winter 2022, Spring 2022
ACTSC 231 - Introductory Financial Mathematics	Spring 2022
ACTSC 232 - Life Contingencies 1	Spring 2024
ACTSC 331 - Life Contingencies 2	Fall 2023
ACTSC 363 - Casualty and Health Insurance Mathematics 1	Fall 2023
ACTSC 372 - Investment Science and Corporate Finance	Spring 2023
ACTSC 431 - Casualty and Health Insurance Mathematics 2	Fall 2021, Winter 2023-2024, Fall 2024
ACTSC 454/854 - Longevity and Mortality Using Predictive Analytics	Winter 2022, Spring 2023
STAT 230 - Probability	Fall 2021-2022
STAT 231 - Statistics	Fall 2022, Winter 2024
STAT 241 - Statistics (Advanced Level)	Winter 2023

Selected Honor and Award

Graduate Research Studentship, UW	2023 - 2024
International Doctoral Student Award, UW	2021 - 2024
Prov/Doc Entrance Award-Women, UW	2021
Postgraduate Academic Scholarship, CUFE	2018 - 2019
Graduate Entrance Scholarship, CUFE	2018
Honor of Excellent Graduate, CUMT	2018
China National Scholarship (< 0.2%), CUMT	2017

Qualification Exam

SOA (Passed P, FM, SRM, IFM, PA, FAM, ASTAM, VEE)

Industrial Experience

Taikang Life Insurance Co., Ltd. , Beijing, China	2020.07 - 2021.06
Data Mining Engineer	
PICC Reinsurance Co., Ltd. , Beijing, China	2019.11 - 2020.01
Actuarial Analyst	