Zhanyi Jiao, ASA

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EDUCATION

University of Waterloo, *Ph.D. Candidate - Actuarial Science*   2020.09 – present
- *Supervisor:* Jun Cai, Ruodu Wang
- *Overall G.P.A:* **92.8/100**

Central University of Finance and Economics, *M.Sc. - Actuarial Science*   2017.09 – 2020.06
- *Supervisor:* Ming Zhou
- *Overall G.P.A:* **90.6/100**

China University of Geosciences, *B.S. - Mathematics and Applied Mathematics* 2013.09 – 2017.06
- *Overall G.P.A:* **92.1/100** - *Ranking 1st*

Wuhan University, *B.Ec. - Finance (Minor)*   2014.09 – 2017.06

RESEARCH INTEREST

Actuarial Science, Quantitative Risk Management, Insurance, Financial Mathematics

PUBLICATION AND RESEARCH

[1] **Jiao, Z.**, Kou, S., Liu, Y. and Wang, R. (2022). An axiomatic theory for anonymized risk sharing. *arXiv:* https://arxiv.org/abs/2208.07533.

[2] Guan, Y., **Jiao, Z.** and Wang, R. (2022). A reverse Expected Shortfall optimization formula. *submitted to North American Actuarial Journal. arXiv:* https://arxiv.org/abs/2203.02599.

[3] **Jiao, Z.** (2019). Optimal mutual risking sharing arrangement with moral hazard. *Graduate Dissertation* - Advisor: Ming Zhou.

[4] **Jiao, Z.** (2017). Financial data processing and application based on wavelet theory. *Outstanding Undergraduate Dissertation.*

[5] Xiang, D., **Jiao, Z.** and Wang, C. (2015). Pricing decision model on export rare earth resources based on game theory. *National Innovation Training Program for College Students - won 15,000 RMB (around 2200 dollar) funding.*

ACADEMIC PRESENTATION

Waterloo Student Conference in Statistics, Actuarial Science and Finance   Waterloo, Canada (2022)
   Title: "An axiomatic theory for anonymized risk sharing"

57th Actuarial Research Conference   Urbana-Champaign, U.S. (2022)
   Title: "A reverse Expected Shortfall optimization formula"

The 25th International Congress on Insurance: Mathematics and Economics   Online (2022)
   Title: "A reverse Expected Shortfall optimization formula"

The 23rd International Congress on Insurance: Mathematics and Economics   Munich, Germany (2019)
   Title: "Optimal retention rate in risk pooling arrangement with moral hazard"

ACADEMIC EXPERIENCE

Research Mentor, University of Waterloo   2023.01 – present

   – Served as research mentor and mentored two female undergraduate students from Women in
     Mathematics (WiM) on the topic "An introduction to risk optimization in insurance".

Research Assistant, University of Melbourne (*Advisor: Shuanming Li*)   2019.03 - 2019.06

   – Research on topics in risk model and risk sharing arrangement for a mutual pool in a non-
     cooperative game with moral hazard.

Research Workshop, St. Petersburg State University of Economics   2018.08 - 2018.09

   – Collaborated with students from all over the world to complete interdisciplinary research on the
     energy economy of Baltic region.

TEACHING EXPERIENCE

Teaching Assistant, University of Waterloo

ACTSC 454/ACTSC 854 - Longevity and Mortality Using Predictive Analytics	Winter 2022 - 2023
ACTSC 371 - Introduction to Investment	Winter 2023
ACTSC 372 - Corporate Finance	Fall 2022
ACTSC 446/ACTSC 846 - Mathematics of Financial Markets	Winter and Fall 2022
ACTSC 445/ACTSC 845 - Quantitative Enterprise Risk Management	Fall 2021, Spring 2022
ACTSC 431 - Casualty and Health Insurance Mathematics 2	Spring 2021
MATBUS 371 - Introduction to Corporate Finance	Fall 2021
STAT 230 - Probability	Spring 2021

Teaching Assistant, China University of Geosciences (Wuhan)

Mathematical Analysis I	Fall 2016

VOLUNTEER EXPERIENCE

Conference Volunteer/Session Chair, University of Waterloo   2022

   – Helped organize the 3rd Waterloo Student Conference in Statistics, Actuarial Science and Fi-
     nance and served as conference session chair.

HONORS AND AWARDS

Selected Award

James C. Hickman Fellowship, *Society of Actuaries (SOA)*	2023 - 2024
International Doctoral Student Award, *UW*	2020 - 2022
Postgraduate Academic Scholarship, *CUFE*	2017 - 2019
The Outstanding Undergraduate Dissertation(**<5%**), *CUG*	2017
The Outstanding Graduate Award, *CUG*	2017
Dean's List of Distinguished Students Scholarship, *CUG*	2016
Headmaster's List of Distinguished Students Scholarship, *CUG*	2015
The Annual Outstanding Student Scholarship(**<1%**), *CUG*	2014

Prize (academic related only)

Mathematical Contest in Modeling (MCM/ICM), *Honorable Mention*	2017
25th Contemporary Undergraduate Mathematical Contest in Modeling, *Provincial First Prize*	2016
13th May Day Mathematical Contest in Modeling, *Second Prize*	2016
24th Contemporary Undergraduate Mathematical Contest in Modeling, *National Second Prize*	2015
8th Central China Mathematical Contest in Modeling (CCMCM), *Second Prize*	2014

SKILL AND QUALIFICATION

Actuarial Profession

- **ASA**: Associate of the Society of Actuaries
- **FSA** (QFI-track) Exam (in progress): QFIIRM Exam, ERM module

Language

- **Mandarin**: Native
- **English**: Fluent (IELTS 7.5)
- **Spanish**: Beginner (DELE A1 Level)

Other Skill

- **Programming**: R, Matlab, SPSS, C languange (NCRE certificate)
- **Mathematical Modeling**: Six national and international mathematical modeling contest prizes