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] Cai, J., **Jiao, Z.** and Mao, T. (2023). Worst-case target semi-variances with applications to robust portfolio selection. Working Paper

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

[3] 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.

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

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

[6] 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

The 26th International Congress on Insurance: Mathematics and Economics Edinburgh, U.K. (2023)
Title: "Worst-case upper partial moment risk measures with application to robust portfolio selection"

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

Instructor, University of Waterloo

ACTSC 231 - Introductory Financial Mathematics — Fall 2023

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

Seminar Organizers, University of Waterloo 2023

- Organize Weekly Seminars on Risk Management and Actuarial Science every week at University of Waterloo.

Conference Volunteer/Session Chair, University of Waterloo 2022

- Helped organize the 3rd Waterloo Student Conference in Statistics, Actuarial Science and Finance 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