Zhanyi Jiao, ASA

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EMPLOYMENT

Illinois State University, *Tenure-track Assistant Professor - Actuarial Science* 2024.08 – present

EDUCATION

University of Waterloo, *Ph.D. - Actuarial Science* 2020.09 – 2024.07

- *Supervisor:* Jun Cai, Ruodu Wang

Central University of Finance and Economics, *M.Sc. - Actuarial Science* 2017.09 – 2020.06

- *Supervisor:* Ming Zhou

The University of Melbourne, *Visiting Student - Actuarial Science* 2019.03 – 2019.06

China University of Geosciences, *B.S. - Mathematics & Applied Math* 2013.09 – 2017.06

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

PROFESSIONAL DESIGNATION

ASA: Associate of the Society of Actuaries

FSA (QFI-track, in progress): ERM, FM, SM

RESEARCH INTEREST

Actuarial Science, Quantitative Risk Management, Insurance, Financial Mathematics

PUBLICATION AND MANUSCRIPT

[1] Fan, Y., **Jiao, Z.** and Wang, R. (2024). Testing mean and variance by e-processes. *Biometrika*, forthcoming. https://doi.org/10.1093/biomet/asae049.

[2] Guan, Y., **Jiao, Z.** and Wang, R. (2024). A reverse ES (CVaR) optimization formula. *North American Actuarial Journal*, **28**(3), 611-625.

[3] Cai, J., **Jiao, Z.** and Mao, T. (2023). Worst-case values of target semi-variances with applications to robust portfolio selection. Submitted to *European Journal of Operational Research* (under review). *arXiv:* https://arxiv.org/abs/2410.01732.

[4] **Jiao, Z.**, Kou, S., Liu, Y. and Wang, R. (2022). An axiomatic theory for anonymized risk sharing. Submitted to *Journal of Political Economy* (under review) *arXiv:* https://arxiv.org/abs/2208.07533.

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"

TEACHING EXPERIENCE

Course Instructor, Illinois State University

MAT 280 - Financial Mathematics (SOA Exam FM UEC course) — Fall 2024, Spring 2025
MAT 385 - Actuarial Models V (SOA Exam ASTAM UEC course) — Spring 2025

Course 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 2023, 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

PEER-REVIEW SERVICE

IEEE Transactions on Neural Networks and Learning Systems (IEEE TNNLS)

PROFESSIONAL SERVICE

Illinois State University Actuarial Research Seminar 2024 - present

Department of Mathematics, Illinois State University

Organizer of the Seminar

Actuarial Committee 2024 - present

Department of Mathematics, Illinois State University

Member of the Actuarial Committee

Women in Mathematics (WiM) Directed Reading & Research Programs 2023

Faculty of Mathematics, University of Waterloo

Research Mentor

Weekly Seminars on Risk Management and Actuarial Science 2023

Department of Statistics and Actuarial Science, University of Waterloo

Organizer of the Seminar

Waterloo Student Conference in Statistics, Actuarial Science and Finance 2022 - 2023

University of Waterloo

Conference Coordinator & Session Chair

HONORS AND AWARDS

Selected Honors

James C. Hickman Fellowship, *Society of Actuaries (SOA)* 2023 - 2024

MATH Senate Graduate Scholarship, *UW* 2024

Women in Mathematics Directed Reading Program Mentorship Award, *UW* 2023

University of Waterloo Graduate Scholarship, *UW* 2023

International Doctoral Student Award, *UW* 2020 - 2023

Postgraduate Academic Scholarship, *CUFE* 2017 - 2019

Dean's/Headmaster's List of Distinguished Students Scholarship, *CUG* 2015 - 2016

The Annual Outstanding Student Scholarship($<$**1%**), *CUG* 2014

Selected Awards (academic related only)

Mathematical Contest in Modeling (MCM/ICM), *Honorable Mention* 2017

Contemporary Undergraduate Mathematical Contest in Modeling, *National Second Prize* 2015

Central China Mathematical Contest in Modeling (CCMCM), *Second Prize* 2014

OTHER SKILLS

Language

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