Benxuan Shi, ASA

Email Google Scholar ORCID

EDUCATION

Ph.D. in Actuarial Science, University of Waterloo *September 2020 - Present*

Supervisor: Bin Li and Mario Ghossoub

M.Sc. in Statistics, Chongqing University *September 2017 - June 2020*

Supervisor: Zhimin Zhang

B.Sc. in Statistics, Chongqing University *September 2013 - June 2017*

PUBLICATIONS

[1] Wen Su, Benxuan Shi, and Yunyun Wang. Estimating the Gerber-Shiu function under a risk model with stochastic income by Laguerre series expansion. *Communications in Statistics - Theory and Methods*, 49:5686–5708, 2019.

[2] Benxuan Shi and Zhimin Zhang. Pricing equity-linked annuities with cliquet-style guarantees under time-changed Lévy models by frame duality projection. *Communications in Nonlinear Science and Numerical Simulation*, 95:105651, 2021.

[3] Wei Zhong, Benxuan Shi, and Zhimin Zhang. Valuation of guaranteed minimum maturity benefits under mean reversion and jump models with surrender risk. *Journal of Computational and Applied Mathematics*, 440:115646, 2024.

[4] Mario Ghossoub, Bin Li, and Benxuan Shi. Bowley-optimal convex-loaded premium principles. *Insurance: Mathematics and Economics*, 121: 157-180, 2025.

[5] Mario Ghossoub, Bin Li, and Benxuan Shi. Optimal insurance in a monopoly: dual utilities with hidden risk attitudes. Submitted to *Journal of Economic Theory*.

[6] Mario Ghossoub, Bin Li, and Benxuan Shi. Bowley-optimal distortion premium principles under distortion risk measure (Working Paper).

[7] Mario Ghossoub, Bin Li, and Benxuan Shi. Bowley-optimal premium principles in general form (Working Paper).

PROFESSIONAL DESIGNATIONS

Associate of the Society of Actuaries (ASA) *December 2023*

Fellow of the Society of Actuaries (FSA) Designation Requirements

ERM Module (in progress)

AWARDS

James C. Hickman Scholarship, Society of Actuaries, USD 20,000 per year *2023–2025*

Stats & Actuarial Science Chair's Award, University of Waterloo *Winter 2023, Spring 2023*

International Doctoral Student Award, University of Waterloo *2020–2024*

Provost Doctoral Entrance Award for Women, University of Waterloo *2020*

Excellent Master's Thesis Award, Chongqing City *2020*

National Scholarship for Graduate Students, Ministry of Education, PRC *2018*

Outstanding Graduate Cadres, Chongqing University *2017*

Third-Class Comprehensive Scholarship, Chongqing University *2017*

Second-Class Comprehensive Scholarship, Chongqing University *2014, 2016*

TEACHING ASSISTANT EXPERIENCE

ACTSC 232 Life Contingencies 1 *Winter 2024*

ACTSC 431 Casualty & Hlth Insur Math 2 *Fall 2023*

ACTSC 372 Investment Sci & Corporate Fin *Fall 2023*

ACTSC 454/ACTSC 854 Longevity & Mortality Using PA *Winter 2023, Winter 2025*

ACTSC 221 Intro Fin Math (Non-Spec) *Winter 2023*

ACTSC 446/ACTSC 846 Math of Financial Markets *Fall 2022*

ACTSC 231 Intro Financial Mathematics *Fall 2022, Spring 2023*

ACTSC 432 Property & Cas Insur: Pricing *Spring 2022*

ACTSC 331 Life Contingencies 2 *Spring 2022*

STAT 231 Statistics *Winter 2022, Winter 2024*

STAT 230 Probability *Winter 2022, Fall 2021*

SYDE 212 Probability & Statistics *Fall 2021*

CONFERENCE PRESENTATIONS

Optimal insurance with uncertain risk attitudes and adverse selection. *July 2024*

The 27th International Congress on Insurance: Mathematics and Economic

Bowley optimal premium principle under exponential utility. *July 2023*

The 26th International Congress on Insurance: Mathematics and Economics

Bowley optimal premium principle under exponential utility. *October 2022*

The 3rd Waterloo Student Conference in Statistics

Equity-indexed annuities pricing with cliquet-style guarantees under time-changed Lévy models. *November 2019*

China Forum for Risk Management and Actuarial Science