Xia Han

Curriculum Vitae

Personal Information

Gender	Female
Nationality	China
Address	No.94 Weijin Road, Nankai District, Tianjin, China
Email	xiahan@nankai.edu.cn

Work

09/2022–present	**Assistant professor** *School of Mathematical Sciences,* Nankai University
09/2020–08/2022	**Postdoc** *Statistics and Actuarial Science,* University of Waterloo Supervisor: Prof. David Landriault, Prof. Ruodu Wang

Education

09/2015–07/2020	**Ph.D.** *Statistics,* Nanjing Normal University Supervisor: Prof. Zhibin Liang
09/2011–07/2015	**B.S.** *Mathematics and Applied Mathematics,* Hebei University of Technology

Research Interests

- Stochastic control (dynamic optimization) problems in insurance and finance
- Quantitative risk management for insurance and finance

Contributed Academic Presentation

11/2021	**University of Waterloo, Zoom** The 2nd Waterloo Student Conference in Statistics, Actuarial Science and Finance
08/2020	**University of Nebraska, Zoom** Actuarial Research VIRTUAL Conference 2020
10/2019	**Southwestern University of Finance and Economics, Chengdu, China** The 2nd National Mathematical Finance Doctoral Academic Forum
05/2019	**East China Normal University, Shanghai, China** Workshop on Actuarial Science Theory and Application

08/2020 **Central University of Finance and Economics, Beijing, China**
The 2nd International Workshop on Optimal (Re)Insurance

Teaching Experiences

2022-2023 **Undergraduate courses** *Advanced mathematics*
Postgraduate courses *Risk theory*

Academic Communications

07/2019–08/2019 **Research assistant** *Department of Statistics and Actuarial Science,* The University of Hong Kong (visit Prof. Kam Chuen Yuen)

08/2018–02/2019 **Visiting scholar** *Department of Mathematics,* University of Michigan (visit Prof. Virginia R. Young)

09/2017–03/2018 **Visiting scholar** *Department of Mathematics,* University of Michigan (visit Prof. Virginia R. Young)

06/2017–07/2017 **Research assistant** *Department of Statistics and Actuarial Science,* The University of Hong Kong (visit Prof. Kam Chuen Yuen)

Publications

1. **Xia Han**, Ruodu Wang, Xunyu Zhou (2023). Choquet regularization for reinforcement learning. *SIAM Journal on Control and Optimization*, forthcoming.
2. **Xia Han**, David Landriault and Danping Li (2023). Optimal reinsurance contract in a Stackelberg game framework: A view of social planner. Scandinavian Actuarial Journal, doi: 0.1080/03461238.2023.2220219
3. Yu Yuan, **Xia Han***, Zhibin Liang and Kam Chuen Yuen (2023). Optimal reinsurance-investment strategy with thinning dependence and delay factors under mean-variance framework. *European Journal of Operational Research*, doi:10.1016/j.ejor.2023.05.023
4. Yu Yuan, Zhibin Liang, **Xia Han** (2022). Minimizing the penalized probability of drawdown for a general insurance company under ambiguity aversion. *Mathematical Methods of Operations Research*, DOI: 10.1007/s00186-022-00794-w.
5. Yu Yuan, Zhibin Liang, **Xia Han** (2022). Robust optimal reinsurance in minimizing the penalized expected time to reach a goal. *Journal of Computational and Applied Mathematics*, DOI: 10.1016/j.cam.2022.114816.
6. Yu Yuan, Zhibin Liang, **Xia Han** (2022). Robust reinsurance contract with asymmetric information in a stochastic Stackelberg differential game. *Scandinavian Actuarial Journal*, **2022**(4), 328–355.
7. **Xia Han**, Zhibin Liang, Yu Yuan, Caibin Zhang (2022). Optimal per-loss reinsurance and investment to minimize the probability of drawdown. *Journal of Industrial and Management Optimization*, **18**(6), 4011–4041.
8. **Xia Han**, Zhibin Liang, Kam Chuen Yuen, Yu Yuan (2021). Minimizing the probability of absolute ruin under ambiguity aversion. *Applied Mathematics and Optimization*, **84**, 2495–2525.
9. **Xia Han**, Zhibin Liang, Kam Chuen Yuen (2021). Minimizing the probability of absolute ruin under the mean- variance premium principle. *Optimal Control Applications and Methods*, **42**(3), 786–806.

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10. Yu Yuan, Zhibin Liang, **Xia Han** (2020). Minimizing the probability of drawdown under borrowing constraints. *Journal of Industrial and Management Optimization*, **18**(2), 933
11. **Xia Han**, Zhibin Liang, Virginia R. Young (2020). Optimal reinsurance strategy to minimize the probability of drawdown under a Mean-Variance premium principle. *Scandinavian Actuarial Journal*, **2020**(10), 879-903.
12. **Xia Han**, Zhibin Liang (2020). Optimal Reinsurance and Investment in Danger-Zone and Safe-Region. *Optimal Control Applications and Methods*, **41**(3), 765-792.
13. **Xia Han**, Zhibin Liang, Caibin Zhang (2019). Optimal proportional reinsurance with common shock dependence to minimize the probability of drawdown. *Annals of Actuarial Science*, **13**(2), 268–294.
14. **Xia Han**, Zhibin Liang, Kam Chuen Yuen (2018). Optimal proportional reinsurance to minimize the probability of drawdown under thinning-dependence structure. *Scandinavian Actuarial Journal*, **2018**(10), 863–889.

Manuscripts

1. Junyi Guo, **Xia Han**, Hao Wang (2023). Exploratory mean-variance portfolio selection with Choquet regularizers. *arXiv: 2307.03026*.
2. Yu Yuan, **Xia Han***, Zhibin Liang, and Kam Chuen Yuen (2023). Minimizing the Penalized Probability of Absolute Ruin with Extremely Ambiguity-Averse and Ambiguity-Loving Preferences. *SSRN: 4401539.*
3. **Xia Han**, Liyuan Lin and Ruodu Wang (2023). Diversification quotients based on VaR and ES. *arXiv: 2301.03517.*
4. **Xia Han**, Liyuan Lin and Ruodu Wang (2022). Diversification Quotients: Quantifying Diversification via Risk Measures. *SSRN: 4149069*.
5. **Xia Han**, Bin Wang, Ruodu Wang, Qinyu Wu (2022). Risk concentration and the mean-Expected Shortfall criterion. *arXiv:2108.05066.*
6. **Xia Han**, Qiuqi Wang, Ruodu Wang, Jianmin Xia (2022). Cash-subadditive risk measures without quasi-convexity. *arXiv: 2110.12198*.

Peer-reveiw Service

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The Journal of Risk *Applied Mathematics and Computation*

European Journal of Operational Research