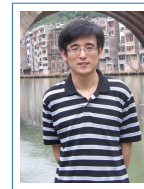# 张 鑫

个人简历

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## 教育经历

2006.09–2009.06 **博士**, *南开大学数学科学学院概率论与数理统计专业*, 天津
2003.09–2006.06 **硕士**, *南开大学数学科学学院概率论与数理统计专业*, 天津
1999.09–2003.06 **学士**, *山东师范大学数学系*, 山东济南

## 工作经历

2020.05–至　今 **教授**, *东南大学数学学院*
2014.07–2020.04 **副教授**, *东南大学数学学院*
2012.12–2014.06 **副教授**, *南开大学数学科学学院*
2011.01–2012.01 **博士后**, *澳大利亚 Macquarie 大学商学院应用金融与精算系*
2009.07–2012.12 **讲师**, *南开大学数学科学学院*

## 访问交流

2019.08–2019.09 **访问学者**, *香港大学统计与精算系*
2019.07–2019.07 **访问学者**, *加拿大约克大学数学与统计系*
2019.01–2019.03 **访问学者**, *香港理工大学应用数学系*
2018.01–2018.02 **访问学者**, *香港理工大学应用数学系*
2016.06–2016.09 **访问学者**, *澳门大学数学系*
2014.02–2014.05 **访问学者**, *英国利物浦大学物理科学学院*

## 教学情况

### 本科生课程

- **高等数学 (III):** 2010 秋季学期
- **现代精算风险理论:** 2010, 2012, 2013 年春季学期
- **抽样调查:** 2014-2016 年每年秋季学期
- **概率论:** 2014-2019 年每年秋季学期
- **精算数学:** 2015-2018 年每年春季学期
- **应用随机过程:** 2015-2016 年每年春季学期

### 研究生课程

- **精算数学:** 2012-2013 年每年春季学期
- **应用随机过程:** 2012-2013 年每年春季学期
- **测度与概率:** 2012-2013 年每年秋季学期
- **统计调查:** 2015-2019 年每年秋季学期

## 项目承担情况

2018.01-2021.12　国家自然科学基金面上项目 **(11771079)**, *金融保险中的定价与随机控制问题*, 48 万, **项目负责人**

2014.01-2017.12　国家自然科学基金面上项目 **(11371020)**, *马尔科夫体制转换金融保险模型中的随机控制问题研究*, 55 万, **项目负责人**

2011.01-2013.12　国家自然科学基金青年基金项目 **(11001139)**, *马尔科夫体制转换模型下金融保险中的破产与随机优化问题研究*, 16 万, **项目负责人**

2011.01-2013.12　省部级高等学校博士学科点专项科研基金 **(20100031120002)**, *马氏调节金融保险模型中的破产与随机最优控制问题研究*, 3.6 万, **项目负责人**

2010.01-2012.12　中央高校基本科研业务费专项资金, *金融保险领域中的优化与博弈问题*, 12 万, **项目负责人**

2012.01-2015.12　国家自然科学基金面上项目 **(11171164)**, *保险风险理论中的随机最优控制问题*, 52 万, **参与**

2010.01-2012.12　国家自然科学基金青年基金项目 **(10901086)**, *分数布朗运动环境下金融保险中优化问题的研究*, 16 万, **参与**

2009.01-2011.12　国家自然科学基金面上项目 **(10871102)**, *金融保险领域中的优化与博弈问题*, 28 万, **参与**

2019.09-2020.06　江苏省残疾人事业发展研究会 **(2019SC03005)**, *信息技术在残疾人服务中的应用研究*, 2 万, **主持**

2019.10-2021.09　东南大学校级教改项目 **(2019-057)**, *基于测度理论的《概率论》课程建设及研讨型与双语教学模式探索与实践*, 0.8 万, **主持**

## 已发表论文

[1] **Xin Zhang**, Jie Xiong, Shuaiqi Zhang. Optimal reinsurance-investment and dividends problem with fixed transaction costs. Journal of Industrial & Management Optimization, Accepted, 2019.

[2] Zhongyang Sun, **Xin Zhang**, Ya-Nan Li. A BSDE approach for bond pricing under interest rate models with self-exciting jumps. Communications in Statistics-Theory and Methods, Accepted, 2019.

[3] Zhongyang Sun, **Xin Zhang**, Kam Chuen Yuen. Mean-variance asset-liability management with affine diffusion factor process and a reinsurance option. Scandinavian Actuarial Journal, Accepted, 2019.

[4] Shuaiqi Zhang, Jie Xiong, **Xin Zhang**. Optimal investment problem with delay under partial information. Mathematical Control & Related Fields, Accepted, 2019.

[5] **Xin Zhang**, Hui Meng, Jie Xiong, Yang Shen. Robust optimal investment and reinsurance of an insurer under jump-diffusion models. Mathematical Control and Related Fields, 9(1):59-76, 2019.

[6] **Xin Zhang**, Zhongyang Sun, Jie Xiong. A general stochastic maximum principle for a Markov regime switching jump-diffusion model of mean-field type. SIAM Journal on Control and Optimization, 56(4):2563-2592, 2018.

[7] **Xin Zhang**, Jie Xiong, Yang Shen. Bond and option pricing for interest rate model with clustering effects. Quantitative Finance, 18(6):969-981, 2018.

[8] Zhongyang Sun, Junyi Guo, and **Xin Zhang**. Maximum principle for Markov regime-switching forward–backward stochastic control system with jumps and relation to dynamic programming. Journal of Optimization Theory and Applications, 176(2):319-350, 2018.

[9] Qingbin Meng, **Xin Zhang**, Junna Bi. On optimal proportional reinsurance and investment in a hidden Markov financial market. Acta Mathematicae Applicatae Sinica, English Series, 33(1): 53-62, 2017.

[10] Zhongyang Sun, **Xin Zhang**, and Junyi Guo. A stochastic maximum principle for processes driven by G-Brownian motion and applications to finance. Optimal Control Applications and Methods, 38(6):934-948, 2017.

[11] Zhongyang Sun, Xiaoxiao Zheng, and **Xin Zhang**. Robust optimal investment and reinsurance of an insurer under variance premium principle and default risk. Journal of Mathematical Analysis and Applications, 446(2):1666–1686, 2017.

[12] **Xin Zhang**, Hui Meng, and Yan Zeng. Optimal investment and reinsurance strategies for insurers with generalized mean-variance premium principle and no-short selling. Insurance Mathematics & Economics, 67:125–132, 2016.

[13] Xiaoxiao Zheng, Zhongyang Sun, **Xin Zhang**. Optimal portfolio problems for an insurance company under default risk and model uncertainty. Acta Mathematica Scientia Chinese Series, 36A (2):362–379, 2016.

[14] Yang Shen, **Xin Zhang**, and Tak Kuen Siu. Mean-variance portfolio selection under a constant elasticity of variance model. Operations Research Letters, 42(5):337–342, 2014.

[15] Qingbin Meng, Zhendong Li, Menghai Wang, and **Xin Zhang**. Stochastic optimal control models for the insurance company with bankruptcy return. Applied Mathematics & Information Sciences, 7:273–282, 2013.

[16] **Xin Zhang**. On optimal proportional reinsurance and investment in a partial Markovian regime-switching economy. Communications on Stochastic Analysis, 7(3):481–492, 2013.

[17] **Xin Zhang**, Robert J. Elliott, and Tak Kuen Siu. A bayesian approach for optimal reinsurance and investment in a diffusion model. Journal of Engineering Mathematics, 76(1):195–206, 2012.

[18] **Xin Zhang**, Robert J. Elliott, and Tak Kuen Siu. A stochastic maximum principle for a Markov regime-switching jump-diffusion model and its application to finance. SIAM Journal on Control and Optimization, 50(2):964–990, 2012.

[19] **Xin Zhang**, Robert J. Elliott, Tak Kuen Siu, and Junyi Guo. Markovian regime-switching market completion using additional Markov jump assets. IMA Journal of Management Mathematics, 23(3):283–305, 2012.

[20] **Xin Zhang** and Tak Kuen Siu. On optimal proportional reinsurance and investment in a Markovian regime-switching economy. Acta Mathematica Sinica- English Series, 28(1):67–82, 2012.

[21] **Xin Zhang** and Min Song. Optimization of risk policy and dividends with fixed transaction costs under interest rate. Frontiers of Mathematics in China, 7(4):795–811, 2012.

[22] Tongling Lv, Junyi Guo, and **Xin Zhang**. Some results on bivariate compound poisson risk model the distribution of the deficit at ruin. Chinese Journal of Applied Probability and Statistics, 27(5):449–453, 2011.

[23] Hui Meng and **Xin Zhang**. Optimal risk control for the excess of loss reinsurance policies. Astin Bulletin, 40(1):179–197, 2010.

[24] **Xin Zhang**, Tak Kuen Siu, and Qingbin Meng. Portfolio selection in the enlarged Markovian regime-switching market. SIAM Journal on Control and Optimization, 48(5):3368–3388, 2010.

[25] Tong Ling Lv, Jun Yi Guo, and **Xin Zhang**. Ruin probabilities for a risk model with two classes of claims. Acta Mathematica Sinica-English Series, 26(9):1749–1760, 2010.

[26] **Xin Zhang** and Tak Kuen Siu. Optimal investment and reinsurance of an insurer with model uncertainty. Insurance Mathematics & Economics, 45(1):81–88, 2009.

[27] Qingbin Meng, **Xin Zhang**, and Junyi Guo. On a risk model with dependence between claim sizes and claim intervals. Statistics & Probability Letters, 78(13):1727–1734, 2008.

[28] **Xin Zhang**. On the ruin problem in a Markov-modulated risk model. Methodology and Computing in Applied Probability, 10(2):225–238, 2008.

[29] Min Song, Rong Wu, and **Xin Zhang**. Total duration of negative surplus for the dual model. Applied Stochastic Models in Business and Industry, 24(6):591–600, 2008.

[30] **Xin Zhang**, Ming Zhou, and Junyi Guo. Optimal combinational quota-share and excess-of-loss reinsurance policies in a dynamic setting. Applied Stochastic Models in Business and Industry, 23(1):63–71, 2007.

## 工作论文

[1] **Xin Zhang**, Xiaojie Liang, Kam Chuen Yuen. 2019. On the Ruin Probablems of a Self-exciting Risk Model.

[2] **Xin Zhang**, Xun Li, Jie Xiong. 2018. Open-Loop and Closed-Loop Solvabilities for Stochastic Linear Quadratic Optimal Control Problems of Markov Regime-Switching System.

## 学术会议报告

[1] Robust optimal investment and reinsurance of an insurer under jump-diffusion models. **2019 IMS-China International Conference on Statistics and Probability**, Dalian, China, July 6 –10, 2019.

[2] Bond and option pricing for interest rate model with clustering effects. **The Joint Optimization Conferences 2017 (JOC 2017)** , Perth, Australia, December 4-10, 2017

[3] A Stochastic Maximum Principle for Processes Driven by G-Brownian Motion and Applications to Finance. **SIAM Conference on Control and Its Applications (CT17)** , Pittsburgh, USA, July 10-12, 2017

[4] Optimal proportional reinsurance and investment under mean-variance criterion in the regime switching jump diffusion model. **International Workshop on Risk Analysis, Ruin and Extremes**, Tianjin, P.R. China, July 14-16, 2014

[5] A Risk-Based Investment-Reinsurance Problem under a Markov Regime-Switching Jump-Diffusion Model. **Perspectives on Actuarial Risks in Talks of Young Researchers**, Ascona, Switzerland, Jan 26-Feb 1, 2013

[6] A Stochastic Maximum Principle for a Markov Regime-Switching Jump-Diffusion Model and its Application to Finance. **The 16th International Congress on Insurance: Mathematics and Economics**, Hongkong, June 28-30, 2012.

[7] Markowitz's Mean-Variance Portfolio Selection in the Markov-Switching Jump-Diffusion Market. **The 2010 International Conference on Insurance and Actuarial Science**, Chongqing, P.R. China, June 5-7, 2010.

[8] Portfolio Selection in the Enlarged Markovian Regime-Switching Market. **IMS-China International Conference on Statistics and Probability**, Weihai, Shandong Province, P.R. China, July 3–6, 2009

[9] Portfolio Optimization in Regime-Switching Market with Multiple Risky Assets. **The 12th International Congress on Insurance: Mathematics and Economics**, Dalian, P.R. China, July 16-18, 2008

## 服务

### 社会兼职

○ 江苏省概率统计学会第 7 届理事会理事
○ 江苏省工业与应用数学学会（JSIAM）金融数学委员会委员
○ 中国工业与应用数学学会（CSIAM）金融数学与工程和精算保险分会精算保险青年专业委会委员
○ 美国《数学评论》评论员

### 期刊审稿人

○ Insurance Mathematics and Economics
○ Journal of Optimization Theory and Applications
○ Journal of Applied Mathematics and Computing
○ Optimal Control, Applications and Methods
○ ESAIM: Control, Optimisation and Calculus of Variations
○ Journal of Industrial and Management Optimization
○ Communications in Statistics - Theory and Methods

### 荣誉

○ 东南大学青年教师授课竞赛三等奖 2018
○ 东南大学青年教师授课竞赛提名奖 2017